

$^{133}\text{Cs}(n,\gamma)$ E=thermal 1987Bo24

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Full Evaluation	A. A. Sonzogni	NDS 103, 1 (2004)	31-Jul-2004

 ^{134}Cs Levels

The level scheme is that of 1987Bo24 and based on coincidence data. Others: 1975AI21, 1978AI09.

E(level)	$J^{\pi\dagger}$	$T_{1/2}$	E(level)	$J^{\pi\dagger}$
0.0	4 ⁺	2.0648 y 10	624.0074 29	(5) ⁻
11.2442 18	5 ⁺		643.9642 28	4 ⁻
60.0297 13	(3) ⁺		684.504 5	(2,3) ⁻
138.7441 26	8 ⁻	2.912 h 2	688.626 4	(4) ⁺
173.7942 16	(2,3) ⁺		693.838 5	(2,3,4) ⁺
176.4044 16	3 ⁻ ,4 ⁻	49.7 ns 8	701.9999 28	3 ⁻ ,4 ⁻
176.6400 26	(1) ⁺		715.823 4	(2,3) ⁻
190.2614 18	(3) ⁺		741.277 4	(3 ⁺ ,4)
193.6162 20	4 ⁻		752.7029 30	4 ⁻
197.7817 17	(2) ⁺		801.253 6	(1 ⁺ ,2,3,4) ⁺
209.5458 18	(4,5) ⁺		821.605 8	(2,3,4) ⁺
234.3341 18	(3) ⁺		831.684 4	4 ⁻ ,5 ⁻
257.1075 24	6 ⁻	12.3 ns 11	835.714 5	(2 ⁺ ,3,4,5) ⁺
267.6618 25	4 ⁻ ,5 ⁻		839.813 4	3 ⁻ ,4 ⁻
271.3489 16	(2,3) ⁺		880.349 4	(3 ⁺ ,4 ⁺)
290.9669 21	(2) ⁺		912.608 4	3 ⁺ ,4 ⁺
344.3594 25	7 ⁻		916.175 4	3 ⁻ ,4 ⁻
377.1021 20	4 ⁺		937.630 5	(4) ⁻
382.9834 24	6 ⁻		941.343 15	(4) ⁻
434.1746 30	6 ⁻ ,7 ⁻		948.138 5	2 ⁻ ,3 ⁻ ,4 ⁻
450.2381 23	5 ⁻		976.310 4	3 ⁻ ,4 ⁻
451.4250 18	(3) ⁺		991.882 5	4 ⁻ ,5 ⁻
454.0876 24	3 ⁺ ,4 ⁺		1043.523 8	(4) ⁺
483.6574 30	(3,4) ⁻		1088.423 5	(3,4) ⁻
502.8411 30	(3,4) ⁺		1094.553 4	(2) ⁻
519.3217 26	(3,4) ⁺		1100.334 5	(2,3) ⁻
539.657 6	(3,4,5) ⁺		1142.861 5	(2,3,4) ⁻
570.8266 27	4 ⁻		1162.508 5	(3 ⁻ ,4)
579.131 4	(2,3) ⁺		1238.872 7	5 ⁻
584.1804 26	(2,3) ⁺		1254.198 5	3 ⁻ ,4 ⁻
613.021 5	(4,5) ⁻		1266.168 6	(3 ⁻ ,4)
621.997 5	(2,3,4,5) ⁺		6891.381 12	3 ⁺ ,4 ⁺ ‡

† From Adopted Levels, unless otherwise noted.

‡ For s-wave capture on $J^{\pi}=7/2^{+}$ target.

¹³³Cs(n,γ) E=thermal **1987Bo24** (continued)

$\gamma(^{134}\text{Cs})$										
E_γ [†]	I_γ ^{‡b}	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult.	δ	α^c	$I_{(\gamma+ce)}$ ^b	Comments
(7.52)		197.7817	(2) ⁺	190.2614	(3) ⁺				21 12	$I_{(\gamma+ce)}$: from the intensity balance (1987Bo24).
11.242 [#] 7		11.2442	5 ⁺	0.0	4 ⁺	M1+E2	0.016 1	90.6 9	254 15	$\alpha(L)=71.2$ 7; $\alpha(M)=14.56$ 15 Mult., δ : from ¹³⁴ Cs IT decay (2.912 h). $I_{(\gamma+ce)}$: from the intensity balance (1987Bo34).
17.217 [#] 6	7.6 3	193.6162	4 ⁻	176.4044	3 ⁻ ,4 ⁻	M1		23.39		$\alpha(L)=18.41$; $\alpha(M)=3.74$ Mult.: $\alpha(L)\text{exp}>16$ (1975A121).
21.146 [#] 7	1.43 10	197.7817	(2) ⁺	176.6400	(1) ⁺	M1		12.67		$\alpha(L)=9.98$; $\alpha(M)=2.029$ Mult.: from the intensity balance for 176.64 level (1987Bo24).
23.991 [#] 7	1.08 7	197.7817	(2) ⁺	173.7942	(2,3) ⁺	M1		8.70		$\alpha(L)=6.84$; $\alpha(M)=1.394$ Mult.: $\alpha(\text{exp})=26$ 10 from $I(\gamma+ce)=30$ 10 (1987Bo24).
37.04 [#] 3	0.37 3	271.3489	(2,3) ⁺	234.3341	(3) ⁺	M1		16.43		$\alpha(K)=14.03$; $\alpha(L)=1.887$; $\alpha(M)=0.384$ Mult.: $\alpha(\text{exp})=26$ 9 from $I(\gamma+ce)=10$ 3 (1987Bo24).
38.624 [#] 2	5.5 2	382.9834	6 ⁻	344.3594	7 ⁻	M1+E2	<0.03	14.50		$\alpha(K)=12.33$; $\alpha(L)=1.707$; $\alpha(M)=0.348$
44.076 [#] 4	0.46 4	234.3341	(3) ⁺	190.2614	(3) ⁺	M1+E2	<0.04	9.88		$\alpha(K)=8.40$; $\alpha(L)=1.165$; $\alpha(M)=0.2378$ (L2+L3)/L1<0.13.
50.702 [#] 4	0.74 12	752.7029	4 ⁻	701.9999	3 ⁻ ,4 ⁻	M1+E2	<0.07	6.60		$\alpha(K)=5.59$; $\alpha(L)=0.802$; $\alpha(M)=0.1643$
60.0316 26	148 30	60.0297	(3) ⁺	0.0	4 ⁺	M1+E2	<0.03	3.98		$\alpha(K)=3.40$; $\alpha(L)=0.460$; $\alpha(M)=0.0938$ $\alpha(K)\text{exp}=3.3$ 7,K:L1:L2:L3=8.5 4:1.0:0.066 7:0.016 1. $\alpha(K)=4.45$; $\alpha(L)=4.16$; $\alpha(M)=0.901$
63.490 4	0.44 12	257.1075	6 ⁻	193.6162	4 ⁻	E2		9.73		
64.624 5	0.23 13	688.626	(4) ⁺	624.0074	(5) ⁻	[E1]		0.737		
67.2555 28	18 3	450.2381	5 ⁻	382.9834	6 ⁻	M1+E2	<0.05	2.87		$\alpha(K)=2.447$; $\alpha(L)=0.334$; $\alpha(M)=0.0681$
73.563 4	2.0 4	271.3489	(2,3) ⁺	197.7817	(2) ⁺	M1(+E2)		2.21		
74.049 4	23 5	267.6618	4 ⁻ ,5 ⁻	193.6162	4 ⁻	M1+E2	0.104 11	2.201 8		$\alpha(K)=1.866$ 3; $\alpha(L)=0.267$ 5; $\alpha(M)=0.0545$ 10
76.986 6	0.51 17	454.0876	3 ⁺ ,4 ⁺	377.1021	4 ⁺	M1(+E2)		1.935		
78.978 6	1.2 4	831.684	4 ⁻ ,5 ⁻	752.7029	4 ⁻	M1		1.797		$\alpha(K)=1.539$; $\alpha(L)=0.2049$; $\alpha(M)=0.0417$
81.086 5	0.43 11	271.3489	(2,3) ⁺	190.2614	(3) ⁺	[M1]		1.665		$\alpha(K)=1.426$; $\alpha(L)=0.1897$; $\alpha(M)=0.0386$
87.2529 25	12.4 25	344.3594	7 ⁻	257.1075	6 ⁻	M1+E2	0.3 3	1.5 4		$\alpha(K)=1.21$ 13; $\alpha(L)=0.22$ 15; $\alpha(M)=0.05$ 4
93.1870 27	5.6 15	290.9669	(2) ⁺	197.7817	(2) ⁺	M1(+E2)		1.115		
94.948 3	0.39 12	271.3489	(2,3) ⁺	176.4044	3 ⁻ ,4 ⁻					
97.5540 29	1.23 25	271.3489	(2,3) ⁺	173.7942	(2,3) ⁺	M1,E2		1.7 6		
108.744 5	0.29 7	752.7029	4 ⁻	643.9642	4 ⁻	[M1,E2]		1.0 4		
111.344 ^d 6	0.18 ^d 5	912.608	3 ⁺ ,4 ⁺	801.253	(1 ⁺ ,2,3,4 ⁺)					

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¹³³Cs(n,γ) E=thermal **1987Bo24** (continued)

γ(¹³⁴Cs) (continued)

E_γ †	I_γ ‡b	E_i (level)	J_i^π	E_f	J_f^π	Mult.	δ	α^c	Comments
111.344 ^d 6	0.18 ^d 5	1254.198	3 ⁻ ,4 ⁻	1142.861	(2,3,4) ⁻				
^x 112.896 5	0.19 3								
113.7640 28	62 8	173.7942	(2,3) ⁺	60.0297	(3) ⁺	M1+E2	<0.1	0.638	$\alpha(K)=0.544$; $\alpha(L)=0.0742$; $\alpha(M)=0.01510$
114.328 3	3.7 5	290.9669	(2) ⁺	176.6400	(1) ⁺	M1(+E2)		0.623	
115.3232 27	0.59 8	382.9834	6 ⁻	267.6618	4 ⁻ ,5 ⁻	M1,E2		0.87 26	
116.3755 26	195 27	176.4044	3 ⁻ ,4 ⁻	60.0297	(3) ⁺	E1		0.1440	$\alpha(K)=0.1235$; $\alpha(L)=0.01638$; $\alpha(M)=0.00330$
116.612 4	22 4	176.6400	(1) ⁺	60.0297	(3) ⁺	E2		1.094	$\alpha(K)=0.755$; $\alpha(L)=0.267$; $\alpha(M)=0.0571$
117.1711 28	3.0 5	290.9669	(2) ⁺	173.7942	(2,3) ⁺	M1(+E2)		0.582	
118.367 4	16.2 21	257.1075	6 ⁻	138.7441	8 ⁻	E2		1.037	$\alpha(K)=0.720$; $\alpha(L)=0.250$; $\alpha(M)=0.0535$
120.591 9	33 4	570.8266	4 ⁻	450.2381	5 ⁻	M1+E2	<0.3	0.572	$\alpha(K)=0.478$; $\alpha(L)=0.0750$; $\alpha(M)=0.01544$
124.034 15	0.19 9	1100.334	(2,3) ⁻	976.310	3 ⁻ ,4 ⁻				
125.745 5	0.41 6	502.8411	(3,4) ⁺	377.1021	4 ⁺	[M1,E2]		0.66 18	
127.5021 28	14.2 13	138.7441	8 ⁻	11.2442	5 ⁺	E3		6.89	$\alpha(K)=2.77$; $\alpha(L)=3.22$; $\alpha(M)=0.719$
127.710 4	1.00 18	579.131	(2,3) ⁺	451.4250	(3) ⁺	[M1,E2]		0.63 17	
130.236 7	89 10	190.2614	(3) ⁺	60.0297	(3) ⁺	M1+E2	<0.13	0.437	$\alpha(K)=0.373$; $\alpha(L)=0.0510$; $\alpha(M)=0.01040$ K:L1:L2:L3=5.32 16:1.0:0.07 2:<0.036.
131.169 5	0.50 6	701.9999	3 ⁻ ,4 ⁻	570.8266	4 ⁻	M1(+E2)		0.423	
^x 131.569 ^{&} 12	0.10 3								
^x 131.661 ^{&} 7	0.11 4								
132.7554 26	0.96 18	584.1804	(2,3) ⁺	451.4250	(3) ⁺	M1(+E2)		0.409	
133.5871 26	1.66 23	193.6162	4 ⁻	60.0297	(3) ⁺	E1		0.0982	$\alpha(K)=0.0843$; $\alpha(L)=0.01107$; $\alpha(M)=0.00223$
136.497 4	0.41 5	976.310	3 ⁻ ,4 ⁻	839.813	3 ⁻ ,4 ⁻	[M1,E2]		0.50 13	
137.7538 29	1.28 15	197.7817	(2) ⁺	60.0297	(3) ⁺	M1(+E2)		0.369	
138.733 11	0.0044 5	138.7441	8 ⁻	0.0	4 ⁺	M4		131.8	$\alpha(K)=73.5$; $\alpha(L)=44.8$; $\alpha(M)=10.52$
142.218 5	0.23 4	519.3217	(3,4) ⁺	377.1021	4 ⁺	[M1,E2]		0.44 10	
142.769 3	4.0 5	377.1021	4 ⁺	234.3341	(3) ⁺	M1(+E2)		0.334	
146.415 4	0.56 6	1094.553	(2) ⁻	948.138	2 ⁻ ,3 ⁻ ,4 ⁻				
149.511 4	1.63 15	209.5458	(4,5) ⁺	60.0297	(3) ⁺	M1,E2		0.38 8	
^x 150.773 4	1.01 10								
^x 153.482 5	0.24 3								
^x 153.806 ^{&} 7	0.12 7								
^x 154.042 ^{&} 6	0.12 4								
159.644 15	0.10 2	1254.198	3 ⁻ ,4 ⁻	1094.553	(2) ⁻				
^x 163.758 ^{&} 7	0.13 3								
^x 164.627 6	0.16 3								
167.556 4	0.38 5	377.1021	4 ⁺	209.5458	(4,5) ⁺	M1,E2		0.26 5	
173.7935 24	0.63 6	173.7942	(2,3) ⁺	0.0	4 ⁺	M1,E2		0.23 4	
174.3061 23	16.5 15	234.3341	(3) ⁺	60.0297	(3) ⁺	M1+E2	0.7 2	0.217 10	$\alpha(K)=0.178$ 6; $\alpha(L)=0.031$ 4; $\alpha(M)=0.0064$ 8
176.4047 24	90 7	176.4044	3 ⁻ ,4 ⁻	0.0	4 ⁺	E1		0.0455	$\alpha(K)=0.0392$; $\alpha(L)=0.00505$; $\alpha(M)=0.00102$
^x 176.994 6	0.38 7								
177.060 5	0.61 12	434.1746	6 ⁻ ,7 ⁻	257.1075	6 ⁻				
^x 177.972 4	0.37 4								

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γ(¹³⁴Cs) (continued)

<u>E_γ[†]</u>	<u>I_γ^{‡b}</u>	<u>E_i(level)</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>	<u>Mult.</u>	<u>δ</u>	<u>α^c</u>	<u>Comments</u>
178.349 4	0.61 9	880.349	(3 ⁺ ,4 ⁺)	701.9999	3 ⁻ ,4 ⁻				
179.0189 24	10.1 10	190.2614	(3) ⁺	11.2442	5 ⁺	E2		0.2445	α(K)=0.1881; α(L)=0.0446; α(M)=0.00940 Mult.: M1,E2 from conversion data. ΔJ rules out M1.
180.0783 24	3.0 3	451.4250	(3) ⁺	271.3489	(2,3) ⁺	M1,E2		0.21 3	
182.375 4	0.24 6	193.6162	4 ⁻	11.2442	5 ⁺				
^x 184.221 8	0.15 4								
^x 185.557 5	0.19 3								
186.847 4	8.9 13	377.1021	4 ⁺	190.2614	(3) ⁺	M1,E2		0.19 3	
187.722 ^d 5	0.19 ^d 3	831.684	4 ⁻ ,5 ⁻	643.9642	4 ⁻				
187.722 ^d 5	0.19 ^d 3	1100.334	(2,3) ⁻	912.608	3 ⁺ ,4 ⁺				
^x 188.413 ^{&} 19	0.09 4								
189.8320 26	2.1 4	624.0074	(5) ⁻	434.1746	6 ⁻ ,7 ⁻	M1,E2		0.176 24	
190.261 4	0.64 9	190.2614	(3) ⁺	0.0	4 ⁺	M1,E2		0.14 5	
^x 191.120 ^{&} 23	0.13 4								
^x 191.765 ^{&} 23	0.19 5								
193.729 4	1.01 13	643.9642	4 ⁻	450.2381	5 ⁻	M1,E2		0.165 21	
194.724 3	1.35 15	1142.861	(2,3,4) ⁻	948.138	2 ⁻ ,3 ⁻ ,4 ⁻	M1,E2		0.163 21	
197.7775 27	1.55 25	197.7817	(2) ⁺	0.0	4 ⁺	E2		0.1738	α(K)=0.1359; α(L)=0.0300; α(M)=0.00630 Mult.: M1,E2 from conversion data. ΔJ rules out M1.
^x 197.878 ^{&} 20	0.17 7								
198.2993 26	37 6	209.5458	(4,5) ⁺	11.2442	5 ⁺	M1+E2	0.47 4	0.1418 10	α(K)=0.1193 5; α(L)=0.0179 4; α(M)=0.00367 8
200.847 4	3.8 9	684.504	(2,3) ⁻	483.6574	(3,4) ⁻	M1,E2		0.148 17	
205.608 6	54 8	344.3594	7 ⁻	138.7441	8 ⁻	M1+E2		0.137 15	
207.663 11	2.2 4	831.684	4 ⁻ ,5 ⁻	624.0074	(5) ⁻	M1,E2		0.133 14	
209.549 4	2.7 7	209.5458	(4,5) ⁺	0.0	4 ⁺	M1,E2		0.130 13	
211.3188 25	8.1 16	271.3489	(2,3) ⁺	60.0297	(3) ⁺	M1,E2		0.126 13	
^x 211.910 4	0.45 7								
^x 212.521 ^{&} 14	0.12 4								
^x 214.428 16	0.15 2								
217.092 11	0.24 11	451.4250	(3) ⁺	234.3341	(3) ⁺	M1,E2		0.116 11	
218.340 4	10.4 18	701.9999	3 ⁻ ,4 ⁻	483.6574	(3,4) ⁻	M1,E2		0.114 10	
219.756 5	13.3 19	454.0876	3 ⁺ ,4 ⁺	234.3341	(3) ⁺	M1,E2		0.112 10	
221.967 8	0.19 4	741.277	(3 ⁺ ,4)	519.3217	(3,4) ⁺				
^x 222.567 20	0.12 3								
223.080 10	0.22 3	234.3341	(3) ⁺	11.2442	5 ⁺				
^x 223.637 ^{&} 29	0.13 3								
223.96 3	0.14 3	912.608	3 ⁺ ,4 ⁺	688.626	(4) ⁺				
224.881 6	0.27 4	1162.508	(3 ⁻ ,4)	937.630	(4) ⁻				
^x 230.921 ^{&} 6	0.28 7								
^x 231.437 ^{&} 14	0.20 3								
232.165 3	4.9 8	715.823	(2,3) ⁻	483.6574	(3,4) ⁻	M1,E2		0.095 6	

¹³³Cs(n,γ) E=thermal **1987Bo24** (continued)

γ(¹³⁴Cs) (continued)

<u>E_γ[†]</u>	<u>I_γ^{‡b}</u>	<u>E_i(level)</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>	<u>Mult.</u>	<u>α^c</u>	<u>Comments</u>
234.332 7	40 5	234.3341	(3) ⁺	0.0	4 ⁺	M1,E2	0.092 6	
235.036 9	0.34 10	976.310	3 ⁻ ,4 ⁻	741.277	(3 ⁺ ,4)			
^x 235.700 17	0.29 5							
237.194 7	0.29 5	688.626	(4) ⁺	451.4250	(3) ⁺			
^x 240.555 11	0.21 4							
240.687 4	0.62 4	450.2381	5 ⁻	209.5458	(4,5) ⁺			
^x 241.844 9	0.29 4							
242.461 13	0.23 3	821.605	(2,3,4 ⁺)	579.131	(2,3) ⁺			
244.542 4	1.11 7	454.0876	3 ⁺ ,4 ⁺	209.5458	(4,5) ⁺			
244.912 12	0.32 8	621.997	(2,3,4,5) ⁺	377.1021	4 ⁺			
245.861 4	23.1 7	257.1075	6 ⁻	11.2442	5 ⁺	E1		
^x 251.392 4	1.48 8							
253.642 5	0.86 6	451.4250	(3) ⁺	197.7817	(2) ⁺			
^x 254.258 8	0.33 4							
254.740 4	1.84 9	1094.553	(2) ⁻	839.813	3 ⁻ ,4 ⁻	M1,E2		
^x 255.379 11	0.29 4							
256.626 4	6.63 20	450.2381	5 ⁻	193.6162	4 ⁻	M1,E2		
^x 257.419 10	0.16 4							
257.820 9	0.58 5	451.4250	(3) ⁺	193.6162	4 ⁻			
260.517 9	0.55 7	1100.334	(2,3) ⁻	839.813	3 ⁻ ,4 ⁻			
261.164 4	13.0 4	451.4250	(3) ⁺	190.2614	(3) ⁺	M1,E2		
^x 262.761 9	0.32 5							
263.826 4	2.86 11	454.0876	3 ⁺ ,4 ⁺	190.2614	(3) ⁺	M1,E2		
^x 266.628 7	0.33 4							
^x 267.444 5	0.49 5							
268.987 5	6.92 21	839.813	3 ⁻ ,4 ⁻	570.8266	4 ⁻	M1,E2		
271.349 4	4.39 13	271.3489	(2,3) ⁺	0.0	4 ⁺	M1,E2		
272.211 4	2.16 9	916.175	3 ⁻ ,4 ⁻	643.9642	4 ⁻	M1,E2		
^x 274.409 15	0.19 3							
274.805 18	0.17 5	451.4250	(3) ⁺	176.6400	(1) ⁺			
275.001 9	0.37 6	451.4250	(3) ⁺	176.4044	3 ⁻ ,4 ⁻			
277.632 4	2.28 7	451.4250	(3) ⁺	173.7942	(2,3) ⁺	M1,E2		
^x 279.477 17	0.36 6					(M1,E2)		
279.647 4	2.14 9	624.0074	(5) ⁻	344.3594	7 ⁻	E2		Mult.: M1,E2 from conversion data. ΔJ rules out M1.
^x 282.81 4	0.20 3							
284.990 4	1.50 5	519.3217	(3,4) ⁺	234.3341	(3) ⁺	M1,E2		
^x 287.19 4	0.24 4							
289.855 ^d 6	0.50 ^d 3	741.277	(3 ⁺ ,4)	451.4250	(3) ⁺			
289.855 ^d 6	0.50 ^d 3	1266.168	(3 ⁻ ,4)	976.310	3 ⁻ ,4 ⁻			
290.612 5	0.67 4	912.608	3 ⁺ ,4 ⁺	621.997	(2,3,4,5) ⁺			
293.293 5	5.08 10	502.8411	(3,4) ⁺	209.5458	(4,5) ⁺	M1,E2		
293.666 9	0.70 5	937.630	(4) ⁻	643.9642	4 ⁻	(M1,E2)		
^x 294.919 8	0.54 5							

¹³³Cs(n,γ) E=thermal 1987Bo24 (continued)

γ(¹³⁴Cs) (continued)

E _γ [†]	I _γ ^{‡b}	E _i (level)	J _i ^π	E _f	J _f ^π	Mult.	δ	α ^c	Comments
295.433 4	5.85 18	434.1746	6 ⁻ ,7 ⁻	138.7441	8 ⁻	M1,E2			
296.165 8	0.58 4	880.349	(3 ⁺ ,4 ⁺)	584.1804	(2,3) ⁺				
^x 297.42& 5	0.18 6								
^x 297.78& 4	0.20 6								
302.457 6	3.08 10	752.7029	4 ⁻	450.2381	5 ⁻	M1,E2			
^x 302.77 4	0.20 5								
303.163 5	3.79 8	570.8266	4 ⁻	267.6618	4 ⁻ ,5 ⁻	M1,E2			
305.062 6	2.20 18	502.8411	(3,4) ⁺	197.7817	(2) ⁺	M1,E2			
306.090 27	0.51 9	1254.198	3 ⁻ ,4 ⁻	948.138	2 ⁻ ,3 ⁻ ,4 ⁻				
^x 306.922 27	1.1 3								
307.250 5	43.4 9	483.6574	(3,4) ⁻	176.4044	3 ⁻ ,4 ⁻	M1+E2	0.6 4	0.0417 4	α(K)=0.0355 8; α(L)=0.0050 3; α(M)=0.00102 6
307.751 26	0.57 13	579.131	(2,3) ⁺	271.3489	(2,3) ⁺				
^x 309.414 21	0.36 6								
309.775 5	7.37 15	519.3217	(3,4) ⁺	209.5458	(4,5) ⁺	M1,E2			
312.574 17	0.25 4	502.8411	(3,4) ⁺	190.2614	(3) ⁺				
^x 313.518 14	0.16 4								
^x 315.417 5	1.60 5					M1,E2			
^x 316.069 12	0.43 4								
316.395 6	0.96 5	835.714	(2 ⁺ ,3,4,5 ⁺)	519.3217	(3,4) ⁺				
317.070 5	4.57 9	377.1021	4 ⁺	60.0297	(3) ⁺	M1,E2			
^x 319.30& 4	0.25 9								
^x 321.58& 5	0.27 8								
322.696 ^d 6	0.89 ^d 4	1162.508	(3 ⁻ ,4)	839.813	3 ⁻ ,4 ⁻				
322.696 ^d 6	0.89 ^d 4	1238.872	5 ⁻	916.175	3 ⁻ ,4 ⁻				
^x 326.355 11	0.38 5								
^x 327.413 20	0.23 4								
329.02 5	1.89 8	519.3217	(3,4) ⁺	190.2614	(3) ⁺				
^x 334.999 14	0.33 3								
^x 336.088 6	1.15 5								
336.489 7	0.81 4	570.8266	4 ⁻	234.3341	(3) ⁺				
338.017 7	1.12 5	1254.198	3 ⁻ ,4 ⁻	916.175	3 ⁻ ,4 ⁻	M1,E2			
341.573 8	0.50 3	1254.198	3 ⁻ ,4 ⁻	912.608	3 ⁺ ,4 ⁺				
^x 342.95& 6	0.34 10								
344.812 10	0.49 4	579.131	(2,3) ⁺	234.3341	(3) ⁺				
345.358 5	1.90 6	613.021	(4,5) ⁻	267.6618	4 ⁻ ,5 ⁻	M1,E2			
347.154 ^{de} 5	2.09 ^d 6	801.253	(1 ⁺ ,2,3,4 ⁺)	454.0876	3 ⁺ ,4 ⁺	E1			
347.154 ^d 5	2.09 ^d 6	1088.423	(3,4) ⁻	741.277	(3 ⁺ ,4)	E1			α(K)=0.00648; α(L)=0.00082; α(M)=0.00017
^x 347.829 25	0.41 5								
349.845 6	1.18 23	584.1804	(2,3) ⁺	234.3341	(3) ⁺				
^x 352.93 8	0.20 3								
356.157 16	6.7 8	839.813	3 ⁻ ,4 ⁻	483.6574	(3,4) ⁻	M1,E2			

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¹³³Cs(n,γ) E=thermal 1987Bo24 (continued)

γ(¹³⁴Cs) (continued)

E_γ †	I_γ ‡ ^b	E_i (level)	J_i^π	E_f	J_f^π	Mult.	Comments
356.349 6	9.5 13	624.0074	(5) ⁻	267.6618	4 ⁻ ,5 ⁻	M1,E2	
361.282 ^d 13	0.53 ^d 6	570.8266	4 ⁻	209.5458	(4,5) ⁺		
361.282 ^{de} 13	0.53 ^d 6	1162.508	(3 ⁻ ,4)	801.253	(1 ⁺ ,2,3,4 ⁺)		
364.171 8	0.56 9	741.277	(3 ⁺ ,4)	377.1021	4 ⁺		
365.855 ^d 7	3.0 ^d 5	377.1021	4 ⁺	11.2442	5 ⁺	M1,E2	
365.855 ^d 7	3.0 ^d 5	539.657	(3,4,5) ⁺	173.7942	(2,3) ⁺	M1,E2	
366.818 9	0.48 8	937.630	(4) ⁻	570.8266	4 ⁻		
^x 367.181 18	0.26 5						
367.867 7	4.7 7	991.882	4 ⁻ ,5 ⁻	624.0074	(5) ⁻	M1,E2	
371.736 5	4.2 5	382.9834	6 ⁻	11.2442	5 ⁺	E1	
376.295 6	1.4 2	643.9642	4 ⁻	267.6618	4 ⁻ ,5 ⁻		
^x 377.129 7	1.50 9						
377.304 28	8.7 7	948.138	2 ⁻ ,3 ⁻ ,4 ⁻	570.8266	4 ⁻	M1,E2	
380.40 ^d 10	0.19 ^d 6	570.8266	4 ⁻	190.2614	(3) ⁺		
380.40 ^{de} 10	0.19 ^d 6	831.684	4 ⁻ ,5 ⁻	451.4250	(3) ⁺		
^x 381.377 7	1.55 20						
381.624 17	0.58 11	835.714	(2 ⁺ ,3,4,5 ⁺)	454.0876	3 ⁺ ,4 ⁺		
384.291 8	1.10 17	835.714	(2 ⁺ ,3,4,5 ⁺)	451.4250	(3) ⁺		
386.43 ^d 3	0.33 ^d 11	584.1804	(2,3) ⁺	197.7817	(2) ⁺		
386.43 ^d 3	0.33 ^d 11	1088.423	(3,4) ⁻	701.9999	3 ⁻ ,4 ⁻		
386.855 8	5.3 9	643.9642	4 ⁻	257.1075	6 ⁻	E2	Mult.: M1,E2 from conversion data. ΔJ rules out M1.
^x 388.250 9	0.37 3						
388.846 12	0.25 3	579.131	(2,3) ⁺	190.2614	(3) ⁺		
391.390 7	2.44 5	451.4250	(3) ⁺	60.0297	(3) ⁺	M1,E2	
393.539 9	0.43 4	684.504	(2,3) ⁻	290.9669	(2) ⁺		
^x 393.946 8	1.66 10						
402.482 7	1.47 6	579.131	(2,3) ⁺	176.6400	(1) ⁺		
402.883 12	0.37 4	693.838	(2,3,4 ⁺)	290.9669	(2) ⁺		
^x 405.311 8	0.92 8						
405.473 7	1.88 8	976.310	3 ⁻ ,4 ⁻	570.8266	4 ⁻		
^x 406.688 9	3.50 18						
407.51 4	0.84 11	584.1804	(2,3) ⁺	176.6400	(1) ⁺		
408.56 6	0.35 8	948.138	2 ⁻ ,3 ⁻ ,4 ⁻	539.657	(3,4,5) ⁺		
410.37 6	0.36 10	584.1804	(2,3) ⁺	173.7942	(2,3) ⁺		
^x 410.73 7	0.32 11						
412.444 8	1.64 8	621.997	(2,3,4,5) ⁺	209.5458	(4,5) ⁺		
^x 414.334 13	0.81 6						
^x 414.91 ^{&} 5	0.18 4						
417.263 18	2.85 17	688.626	(4) ⁺	271.3489	(2,3) ⁺	M1,E2	
421.054 8	1.84 15	991.882	4 ⁻ ,5 ⁻	570.8266	4 ⁻		
^x 421.890 9	0.64 4						

¹³³Cs(n,γ) E=thermal **1987Bo24** (continued)

γ(¹³⁴Cs) (continued)

<u>E_γ[†]</u>	<u>I_γ^{‡b}</u>	<u>E_i(level)</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>	<u>Mult.</u>
422.479 8	0.65 12	693.838	(2,3,4 ⁺)	271.3489	(2,3) ⁺	
426.265 11	1.16 13	880.349	(3 ⁺ ,4 ⁺)	454.0876	3 ⁺ ,4 ⁺	
427.075 20	0.19 3	1142.861	(2,3,4) ⁻	715.823	(2,3) ⁻	
^x 429.738 8	2.82 9					M1,E2
430.66 4	0.22 3	701.9999	3 ⁻ ,4 ⁻	271.3489	(2,3) ⁺	
^x 431.79& 5	0.19 3					
432.583 16	0.59 4	1254.198	3 ⁻ ,4 ⁻	821.605	(2,3,4 ⁺)	
434.359 8	2.23 7	701.9999	3 ⁻ ,4 ⁻	267.6618	4 ⁻ ,5 ⁻	
^x 435.97 6	0.14 3					
438.990 8	4.01 8	450.2381	5 ⁻	11.2442	5 ⁺	
442.833 7	8.73 18	454.0876	3 ⁺ ,4 ⁺	11.2442	5 ⁺	M1,E2
444.440 7	3.76 8	1088.423	(3,4) ⁻	643.9642	4 ⁻	M1,E2
450.18 5	4.6 6	450.2381	5 ⁻	0.0	4 ⁺	E1
450.36 5	21.3 5	643.9642	4 ⁻	193.6162	4 ⁻	M1,E2
451.413 8	4.02 16	451.4250	(3) ⁺	0.0	4 ⁺	M1,E2
454.090 7	2.67 14	454.0876	3 ⁺ ,4 ⁺	0.0	4 ⁺	
456.402 23	0.42 3	1100.334	(2,3) ⁻	643.9642	4 ⁻	
458.379 26	0.97 4	1142.861	(2,3,4) ⁻	684.504	(2,3) ⁻	
^x 458.950 9	1.42 7					
^x 459.27& 4	0.41 7					
^x 459.48& 3	0.28 8					
461.180 8	2.86 20	912.608	3 ⁺ ,4 ⁺	451.4250	(3) ⁺	M1,E2
^x 461.96& 4	0.17 5					
462.726 21	0.31 5	839.813	3 ⁻ ,4 ⁻	377.1021	4 ⁺	
^x 463.736& 15	0.28 3					
^x 464.106& 19	0.23 3					
464.486 8	3.13 25	948.138	2 ⁻ ,3 ⁻ ,4 ⁻	483.6574	(3,4) ⁻	M1,E2
465.938 13	0.37 4	916.175	3 ⁻ ,4 ⁻	450.2381	5 ⁻	
467.565 9	0.79 10	643.9642	4 ⁻	176.4044	3 ⁻ ,4 ⁻	
^x 469.717 24	0.26 2					
^x 470.491 12	0.35 7					
^x 474.466 22	0.60 7					
^x 475.830 18	0.26 3					
479.082 20	0.26 3	688.626	(4) ⁺	209.5458	(4,5) ⁺	
479.648 16	0.35 10	539.657	(3,4,5) ⁺	60.0297	(3) ⁺	
^x 481.599& 21	0.25 2					
^x 481.959& 14	0.40 8					
^x 482.930 20	0.24 4					
^x 484.67 16	0.38 13					
485.055 24	2.07 13	752.7029	4 ⁻	267.6618	4 ⁻ ,5 ⁻	M1,E2
^x 485.319 29	0.43 7					

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¹³³Cs(n,γ) E=thermal **1987Bo24** (continued)

γ(¹³⁴Cs) (continued)

<u>E_γ[†]</u>	<u>I_γ^{‡b}</u>	<u>E_i(level)</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>	<u>Mult.</u>
^x 487.021 & 26	0.34 6					
487.385 8	3.21 10	937.630	(4) ⁻	450.2381	5 ⁻	M1,E2
^x 487.851 & 17	0.41 4					
^x 489.189 14	3.19 7					M1,E2
490.838 16	0.32 5	688.626	(4) ⁺	197.7817	(2) ⁺	
491.593 11	0.81 10	502.8411	(3,4) ⁺	11.2442	5 ⁺	
^x 494.174 & 19	0.22 3					
495.605 11	2.11 7	752.7029	4 ⁻	257.1075	6 ⁻	
^x 497.089 12	0.48 6					
^x 499.734 9	0.27 3					
^x 501.150 27	0.61 14					
502.836 8	6.98 14	502.8411	(3,4) ⁺	0.0	4 ⁺	M1,E2
503.577 17	1.57 8	693.838	(2,3,4) ⁺	190.2614	(3) ⁺	
504.23 ^{de} 4	0.52 ^d 6	701.9999	3 ⁻ ,4 ⁻	197.7817	(2) ⁺	
504.23 ^d 4	0.52 ^d 6	1088.423	(3,4) ⁻	584.1804	(2,3) ⁺	
508.076 9	3.94 16	519.3217	(3,4) ⁺	11.2442	5 ⁺	(M1,E2) ^a
508.372 9	3.64 18	701.9999	3 ⁻ ,4 ⁻	193.6162	4 ⁻	(M1,E2) ^a
510.793 9	8.9 8	570.8266	4 ⁻	60.0297	(3) ⁺	
^x 513.315 27	1.00 17					
514.832 11	0.73 22	688.626	(4) ⁺	173.7942	(2,3) ⁺	
^x 515.49 3	0.51 5					
517.60 4	1.9 4	1088.423	(3,4) ⁻	570.8266	4 ⁻	
518.024 30	0.59 10	715.823	(2,3) ⁻	197.7817	(2) ⁺	
519.087 10	3.76 11	579.131	(2,3) ⁺	60.0297	(3) ⁺	M1,E2 ^a
519.337 9	5.92 24	519.3217	(3,4) ⁺	0.0	4 ⁺	M1,E2 ^a
520.054 14	0.65 6	693.838	(2,3,4) ⁺	173.7942	(2,3) ⁺	
522.209 9	1.19 13	715.823	(2,3) ⁻	193.6162	4 ⁻	
^x 523.59 6	0.48 10					
524.146 9	6.5 11	584.1804	(2,3) ⁺	60.0297	(3) ⁺	M1,E2
^x 525.23 4	0.86 9					
525.598 11	9.1 11	701.9999	3 ⁻ ,4 ⁻	176.4044	3 ⁻ ,4 ⁻	M1,E2
526.083 9	2.2 5	976.310	3 ⁻ ,4 ⁻	450.2381	5 ⁻	M1,E2
528.423 11	5.3 6	539.657	(3,4,5) ⁺	11.2442	5 ⁺	M1,E2
529.505 20	13.2 20	1100.334	(2,3) ⁻	570.8266	4 ⁻	M1,E2
529.890 11	2.3 8	801.253	(1 ⁺ ,2,3,4 ⁺)	271.3489	(2,3) ⁺	
530.655 21	1.37 17	821.605	(2,3,4) ⁺	290.9669	(2) ⁺	
^x 531.055 15	0.71 15					
531.743 16	1.37 18	741.277	(3 ⁺ ,4)	209.5458	(4,5) ⁺	
^x 532.351 & 29	0.31 9					
^x 532.94 & 5	0.26 6					
^x 533.411 13	0.98 27					

¹³³Cs(n,γ) E=thermal **1987Bo24** (continued)

γ(¹³⁴Cs) (continued)

E_γ †	I_γ ‡b	E_i (level)	J_i^π	E_f	J_f^π	Mult.	Comments
^x 535.500 & 19	0.40 20						
538.405 22	1.22 18	1254.198	3 ⁻ ,4 ⁻	715.823	(2,3) ⁻		
539.413 13	12.1 13	715.823	(2,3) ⁻	176.4044	3 ⁻ ,4 ⁻	M1,E2	
540.692 9	4.6 8	1043.523	(4) ⁺	502.8411	(3,4) ⁺	M1,E2	
^x 541.392 25	0.85 12						
541.641 26	1.25 24	991.882	4 ⁻ ,5 ⁻	450.2381	5 ⁻		
^x 543.65 & 5	0.33 4						
^x 544.663 & 25	0.54 7						
^x 546.047 12	0.70 7						
^x 547.256 22	1.11 18						
^x 547.460 24	2.19 29						
^x 548.946 & 18	0.32 5						
^x 549.891 & 14	0.53 8						
550.322 12	0.77 15	1266.168	(3 ⁻ ,4)	715.823	(2,3) ⁻		
554.641 10	6.4 10	937.630	(4) ⁻	382.9834	6 ⁻	(E2)	Mult.: M1,E2 from conversion data. ΔJ rules out M1.
^x 555.940 12	1.02 25						
^x 557.743 10	4.2 7						
558.383 24	0.36 14	941.343	(4 ⁻)	382.9834	6 ⁻		
559.081 10	2.8 5	752.7029	4 ⁻	193.6162	4 ⁻		
559.848 16	0.62 11	1043.523	(4) ⁺	483.6574	(3,4) ⁻		
^x 560.785 12	0.95 18						
561.994 25	3.5 5	621.997	(2,3,4,5) ⁺	60.0297	(3) ⁺	M1,E2	
^x 562.475 14	1.6 3						
564.028 27	1.17 3	831.684	4 ⁻ ,5 ⁻	267.6618	4 ⁻ ,5 ⁻	(M1,E2) ^d	
564.344 18	0.91 27	835.714	(2 ⁺ ,3,4,5 ⁺)	271.3489	(2,3) ⁺	(M1,E2) ^d	
566.904 23	0.44 9	801.253	(1 ⁺ ,2,3,4 ⁺)	234.3341	(3) ⁺		
567.479 20	1.21 20	741.277	(3 ⁺ ,4)	173.7942	(2,3) ⁺		
^x 568.336 13	0.83 25						
^x 569.889 18	2.8 3					(M1,E2)	
570.826 10	5.3 10	570.8266	4 ⁻	0.0	4 ⁺	(E1)	
^x 572.120 & 23	0.36 4						
574.581 10	1.80 22	831.684	4 ⁻ ,5 ⁻	257.1075	6 ⁻		
576.289 11	2.6 4	752.7029	4 ⁻	176.4044	3 ⁻ ,4 ⁻	M1,E2	
^x 578.685 & 21	0.37 9						
579.127 27	0.93 8	579.131	(2,3) ⁺	0.0	4 ⁺		
^x 582.25 6	0.51 26						
^x 582.412 16	0.80 5						
584.183 10	1.87 26	584.1804	(2,3) ⁺	0.0	4 ⁺		
^x 586.059 12	0.86 10						
587.30 3	0.62 6	821.605	(2,3,4 ⁺)	234.3341	(3) ⁺		
^x 587.557 23	0.87 20						
^x 588.99 4	0.49 9						

¹³³Cs(n,γ) E=thermal **1987Bo24** (continued)

γ(¹³⁴Cs) (continued)

<u>E_γ[†]</u>	<u>I_γ^{‡b}</u>	<u>E_i(level)</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>	<u>Mult.</u>
^x 589.283 14	0.96 8					
591.678 20	1.43 17	1162.508	(3 ⁻ ,4)	570.8266	4 ⁻	
^x 592.374 16	0.78 13					
593.247 23	0.38 11	1043.523	(4) ⁺	450.2381	5 ⁻	
^x 594.551 12	2.8 4					
^x 598.156 24	0.81 8					
601.333 24	0.85 18	835.714	(2 ⁺ ,3,4,5 ⁺)	234.3341	(3) ⁺	(M1,E2)
601.77 4	2.36 21	613.021	(4,5) ⁻	11.2442	5 ⁺	
603.448 12	2.7 3	801.253	(1 ⁺ ,2,3,4 ⁺)	197.7817	(2) ⁺	
^x 605.39 4	1.1 5					
^x 609.95 4	0.21 4					
610.899 12	2.25 16	1094.553	(2) ⁻	483.6574	(3,4) ⁻	
^x 611.805 28	0.32 4					
613.026 15	0.79 5	613.021	(4,5) ⁻	0.0	4 ⁺	
^x 613.987 12	1.56 6					
614.801 13	1.07 5	991.882	4 ⁻ ,5 ⁻	377.1021	4 ⁺	
^x 620.89 5	0.45 9					
^x 622.060 10	8.87 18					M1,E2
623.838 16	1.68 12	821.605	(2,3,4 ⁺)	197.7817	(2) ⁺	
^x 627.12 5	0.62 12					
^x 627.523 28	0.53 7					
628.586 10	3.8 4	688.626	(4) ⁺	60.0297	(3) ⁺	
^x 630.36 ^{&} 5	0.33 6					
^x 631.298 12	1.67 24					
^x 633.161 12	2.0 4					
633.807 11	4.1 7	693.838	(2,3,4 ⁺)	60.0297	(3) ⁺	
^x 637.139 20	0.57 5					
^x 638.028 12	5.6 5					
^x 639.166 ^{&} 16	0.49 4					
^x 640.126 18	0.38 4					
641.956 26	0.49 14	701.9999	3 ⁻ ,4 ⁻	60.0297	(3) ⁺	
^x 644.10 4	0.43 7					
644.96 ^{de} 4	1.10 ^d 13	821.605	(2,3,4 ⁺)	176.6400	(1) ⁺	
644.96 ^{de} 4	1.10 ^d 13	912.608	3 ⁺ ,4 ⁺	267.6618	4 ⁻ ,5 ⁻	
645.450 14	4.3 6	835.714	(2 ⁺ ,3,4,5 ⁺)	190.2614	(3) ⁺	
646.193 12	4.38 18	839.813	3 ⁻ ,4 ⁻	193.6162	4 ⁻	
648.491 13	7.86 24	916.175	3 ⁻ ,4 ⁻	267.6618	4 ⁻ ,5 ⁻	
659.105 ^{de} 29	0.71 ^d 13	835.714	(2 ⁺ ,3,4,5 ⁺)	176.6400	(1) ⁺	
659.105 ^{de} 29	0.71 ^d 13	916.175	3 ⁻ ,4 ⁻	257.1075	6 ⁻	
661.92 5	0.77 9	835.714	(2 ⁺ ,3,4,5 ⁺)	173.7942	(2,3) ⁺	
^x 662.62 7	0.72 10					
663.343 25	4.9 5	839.813	3 ⁻ ,4 ⁻	176.4044	3 ⁻ ,4 ⁻	

¹³³Cs(n,γ) E=thermal 1987Bo24 (continued)

γ(¹³⁴Cs) (continued)

<u>E_γ[†]</u>	<u>I_γ^{‡b}</u>	<u>E_i(level)</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>	<u>E_γ[†]</u>	<u>I_γ^{‡b}</u>	<u>E_i(level)</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>
666.043 23	3.03 18	839.813	3 ⁻ ,4 ⁻	173.7942	(2,3) ⁺	^x 736.716 29	1.35 7				
^x 666.498 & 24	1.11 14					^x 737.49 3	0.51 7				
^x 674.19 5	0.48 14					738.79 4	0.68 2	912.608	3 ⁺ ,4 ⁺	173.7942	(2,3) ⁺
^x 674.86 3	0.86 13					739.76 4	0.52 11	916.175	3 ⁻ ,4 ⁻	176.4044	3 ⁻ ,4 ⁻
^x 676.212 24	0.75 10					741.272 16	2.8 4	741.277	(3 ⁺ ,4)	0.0	4 ⁺
^x 677.003 18	1.19 6					741.93 4	0.85 13	976.310	3 ⁻ ,4 ⁻	234.3341	(3) ⁺
678.27 5	1.3 4	912.608	3 ⁺ ,4 ⁺	234.3341	(3) ⁺	^x 744.240 29	1.36 15				
^x 678.94 4	0.53 6					^x 747.87 4	0.70 8				
681.262 12	4.3 4	741.277	(3 ⁺ ,4)	60.0297	(3) ⁺	^x 748.500 28	1.8 4				
681.82 5	0.56 13	916.175	3 ⁻ ,4 ⁻	234.3341	(3) ⁺	752.544 26	0.74 5	1043.523	(4) ⁺	290.9669	(2) ⁺
682.537 24	1.13 9	880.349	(3 ⁺ ,4 ⁺)	197.7817	(2) ⁺	^x 753.97 & 7	0.44 7				
^x 683.12 5	3.8 5					^x 754.75 7	1.06 17				
683.389 28	1.46 22	1254.198	3 ⁻ ,4 ⁻	570.8266	4 ⁻	^x 755.84 4	0.78 7				
^x 685.60 7	0.45 5					^x 758.715 22	0.97 8				
^x 686.868 23	1.15 6					761.533 21	1.22 6	821.605	(2,3,4 ⁺)	60.0297	(3) ⁺
^x 687.652 19	0.69 6					^x 768.21 12	0.59 21				
688.639 19	2.3 4	688.626	(4) ⁺	0.0	4 ⁺	^x 769.76 5	1.09 9				
^x 690.595 24	0.63 5					770.55 4	3.50 4	1254.198	3 ⁻ ,4 ⁻	483.6574	(3,4) ⁻
^x 692.30 6	0.80 7					771.69 ^{de} 6	0.57 ^d 13	831.684	4 ⁻ ,5 ⁻	60.0297	(3) ⁺
692.62 ^d 4	2.57 ^d 10	752.7029	4 ⁻	60.0297	(3) ⁺	771.69 ^d 6	0.57 ^d 13	948.138	2 ⁻ ,3 ⁻ ,4 ⁻	176.4044	3 ⁻ ,4 ⁻
692.62 ^{de} 4	2.57 ^d 10	1142.861	(2,3,4) ⁻	450.2381	5 ⁻	^x 775.32 5	2.12 13				
695.356 19	1.81 15	1266.168	(3 ⁻ ,4)	570.8266	4 ⁻	^x 778.10 10	1.10 10				
^x 698.13 6	0.99 6					^x 780.83 5	2.46 25				
703.35 4	1.26 10	937.630	(4) ⁻	234.3341	(3) ⁺	782.71 5	0.73 10	976.310	3 ⁻ ,4 ⁻	193.6162	4 ⁻
^x 707.404 26	1.22 9					^x 789.00 8	0.79 10				
708.35 6	1.3 4	1162.508	(3 ⁻ ,4)	454.0876	3 ⁺ ,4 ⁺	^x 791.96 7	2.13 11				
708.647 16	7.25 22	976.310	3 ⁻ ,4 ⁻	267.6618	4 ⁻ ,5 ⁻	^x 796.69 4	1.75 26				
712.257 22	3.9 4	1162.508	(3 ⁻ ,4)	450.2381	5 ⁻	799.90 8	2.01 10	976.310	3 ⁻ ,4 ⁻	176.4044	3 ⁻ ,4 ⁻
^x 712.767 27	2.34 14					^x 806.53 12	0.87 23				
714.803 22	0.61 10	912.608	3 ⁺ ,4 ⁺	197.7817	(2) ⁺	^x 808.80 5	1.04 19				
^x 718.662 12	5.62 28					809.44 5	0.84 13	1100.334	(2,3) ⁻	290.9669	(2) ⁺
^x 720.14 3	0.48 5					^x 811.57 & 6	1.05 19				
^x 721.10 5	1.30 21					^x 813.89 7	4.2 3				
722.30 6	2.15 11	912.608	3 ⁺ ,4 ⁺	190.2614	(3) ⁺	^x 815.05 4	1.23 10				
^x 723.020 13	2.9 3					815.92 17	1.52 11	1266.168	(3 ⁻ ,4)	450.2381	5 ⁻
^x 724.31 & 4	0.31 14					820.733 17	2.80 7	1088.423	(3,4) ⁻	267.6618	4 ⁻ ,5 ⁻
726.54 4	0.89 24	1266.168	(3 ⁻ ,4)	539.657	(3,4,5) ⁺	823.31 6	0.80 18	1094.553	(2) ⁻	271.3489	(2,3) ⁺
^x 727.55 3	0.73 10					^x 825.58 3	0.16 1				
730.036 15	2.51 25	741.277	(3 ⁺ ,4)	11.2442	5 ⁺	^x 827.39 4	0.63 10				
^x 732.608 21	1.67 10					^x 832.83 5	0.75 11				
734.73 5	0.75 10	991.882	4 ⁻ ,5 ⁻	257.1075	6 ⁻	835.74 3	1.33 26	835.714	(2 ⁺ ,3,4,5 ⁺)	0.0	4 ⁺
^x 735.80 & 10	0.38 9					^x 841.010 15	8.2 4				

¹³³Cs(n,γ) E=thermal **1987Bo24** (continued)

γ(¹³⁴Cs) (continued)

<u>E_γ[†]</u>	<u>I_γ^{‡b}</u>	<u>E_i(level)</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>	<u>E_γ[†]</u>	<u>I_γ^{‡b}</u>	<u>E_i(level)</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>
^x 842.483 27	2.10 19					949.31 7	0.78 24	1142.861	(2,3,4) ⁻	193.6162	4 ⁻
^x 845.35 8	1.6 5					^x 954.32 17	0.71 16				
^x 846.73 5	0.84 19					966.454 17	6.53 13	1142.861	(2,3,4) ⁻	176.4044	3 ⁻ ,4 ⁻
852.60 4	1.38 15	912.608	3 ⁺ ,4 ⁺	60.0297	(3) ⁺	968.85 5	1.44 17	1162.508	(3 ⁻ ,4)	193.6162	4 ⁻
^x 855.53 5	0.77 18					^x 970.78 7	0.83 9				
860.16 8	0.94 13	1094.553	(2) ⁻	234.3341	(3) ⁺	^x 972.90 4	2.02 12				
861.71 5	2.1 4	1238.872	5 ⁻	377.1021	4 ⁺	^x 983.94 6	2.49 23				
^x 863.83& 8	0.73 10					986.08 5	1.85 17	1162.508	(3 ⁻ ,4)	176.4044	3 ⁻ ,4 ⁻
869.03 7	4.6 7	880.349	(3 ⁺ ,4 ⁺)	11.2442	5 ⁺	^x 994.58 6	1.31 12				
^x 869.56 6	1.79 23					998.537 23	5.10 20	1266.168	(3 ⁻ ,4)	267.6618	4 ⁻ ,5 ⁻
^x 870.74 6	1.15 18					^x 1004.38 5	2.22 16				
^x 875.89 6	0.94 11					^x 1008.40 5	1.64 21				
^x 876.91 4	0.9 4					^x 1010.52 7	1.42 13				
880.41 3	2.39 15	880.349	(3 ⁺ ,4 ⁺)	0.0	4 ⁺	^x 1014.67 6	2.33 16				
^x 880.59 7	3.28 23					^x 1019.16 11	0.90 13				
881.23 6	1.50 14	941.343	(4 ⁻)	60.0297	(3) ⁺	1028.36 11	0.93 14	1088.423	(3,4) ⁻	60.0297	(3) ⁺
^x 886.033 19	3.24 26					^x 1032.780 29	2.8 5				
^x 887.54 4	1.36 10					1034.31 9	1.92 14	1094.553	(2) ⁻	60.0297	(3) ⁺
^x 890.45 8	1.23 23					^x 1042.66 4	3.7 4				
^x 891.4 4	1.1 4					^x 1044.31 9	2.0 4				
894.54 4	3.69 15	1238.872	5 ⁻	344.3594	7 ⁻	1045.16 9	1.9 4	1238.872	5 ⁻	193.6162	4 ⁻
894.814 ^d 19	3.57 ^d 29	1088.423	(3,4) ⁻	193.6162	4 ⁻	^x 1058.27 6	1.27 17				
894.814 ^d 19	3.57 ^d 29	1162.508	(3 ⁻ ,4)	267.6618	4 ⁻ ,5 ⁻	1072.64 9	1.60 18	1266.168	(3 ⁻ ,4)	193.6162	4 ⁻
901.31 4	1.63 13	912.608	3 ⁺ ,4 ⁺	11.2442	5 ⁺	1077.811 22	6.04 18	1254.198	3 ⁻ ,4 ⁻	176.4044	3 ⁻ ,4 ⁻
902.36 9	0.67 14	1100.334	(2,3) ⁻	197.7817	(2) ⁺	^x 1092.20 6	1.6 3				
904.24 6	1.14 17	1094.553	(2) ⁻	190.2614	(3) ⁺	1102.61 9	2.0 9	1162.508	(3 ⁻ ,4)	60.0297	(3) ⁺
^x 905.26 4	1.94 25					^x 1105.50 15	1.78 27				
^x 910.633 26	4.41 13					^x 1114.33 10	1.93 23				
912.032 24	3.92 12	1088.423	(3,4) ⁻	176.4044	3 ⁻ ,4 ⁻	^x 1118.18 5	2.70 22				
^x 914.43 5	1.20 26					^x 1124.54& 22	1.5 4				
917.76 9	0.92 17	1094.553	(2) ⁻	176.6400	(1) ⁺	^x 1125.73 11	3.83 27				
^x 920.08 11	0.94 17					^x 1128.43 6	3.71 19				
^x 921.22 13	0.85 7					^x 1132.34 5	2.80 17				
^x 923.10 6	1.99 26					^x 1144.32 11	1.47 18				
^x 923.83 5	2.68 27					^x 1177.44 9	1.60 18				
^x 926.71 5	3.36 17					^x 1209.80 7	5.5 5				
930.113 19	6.1 4	941.343	(4 ⁻)	11.2442	5 ⁺	^x 1218.86 30	2.2 4				
^x 932.11 4	2.53 13					^x 1220.6 3	2.7 5				
^x 935.61 4	4.0 3					^x 1234.32 15	2.1 3				
^x 936.60 5	3.3 3					^x 1263.82 8	2.28 21				
^x 938.04 5	2.32 28					^x 1266.59 7	3.2 4				
^x 942.65 11	1.46 18					^x 1294.10 11	1.69 20				
^x 947.57 5	3.01 21					^x 1321.00 4	4.81 24				

γ(¹³⁴Cs) (continued)

E_γ †	I_γ ‡ ^b	E_i (level)	J_i^π	E_f	J_f^π	Comments
^x 1462.19 6	6.0 4					
^x 1494.02 10	3.9 4					
5624.89 6	2.64 27	6891.381	3 ⁺ ,4 ⁺	1266.168	(3 ⁻ ,4)	
5637.05 5	5.9 6	6891.381	3 ⁺ ,4 ⁺	1254.198	3 ⁻ ,4 ⁻	
5652.13 13	0.56 6	6891.381	3 ⁺ ,4 ⁺	1238.872	5 ⁻	
5728.82 6	2.9 3	6891.381	3 ⁺ ,4 ⁺	1162.508	(3 ⁻ ,4)	
5748.48 5	3.1 3	6891.381	3 ⁺ ,4 ⁺	1142.861	(2,3,4) ⁻	
5790.66 5	3.8 4	6891.381	3 ⁺ ,4 ⁺	1100.334	(2,3) ⁻	
5796.93 @ 22	0.20 4	6891.381	3 ⁺ ,4 ⁺	1094.553	(2) ⁻	
5802.64 6	2.45 25	6891.381	3 ⁺ ,4 ⁺	1088.423	(3,4) ⁻	
5848.2 5	0.27 3	6891.381	3 ⁺ ,4 ⁺	1043.523	(4) ⁺	
5899.23 6	2.07 21	6891.381	3 ⁺ ,4 ⁺	991.882	4 ⁻ ,5 ⁻	
5914.81 6	1.27 13	6891.381	3 ⁺ ,4 ⁺	976.310	3 ⁻ ,4 ⁻	
5943.2 4	0.14 2	6891.381	3 ⁺ ,4 ⁺	948.138	2 ⁻ ,3 ⁻ ,4 ⁻	
5950.14 6	1.16 12	6891.381	3 ⁺ ,4 ⁺	941.343	(4 ⁻)	
5953.94 @ 23	0.27 7	6891.381	3 ⁺ ,4 ⁺	937.630	(4) ⁻	
5974.97 7	1.83 19	6891.381	3 ⁺ ,4 ⁺	916.175	3 ⁻ ,4 ⁻	
5979.12 10	1.06 11	6891.381	3 ⁺ ,4 ⁺	912.608	3 ⁺ ,4 ⁺	
6009.7 12	0.026 11	6891.381	3 ⁺ ,4 ⁺	880.349	(3 ⁺ ,4 ⁺)	
6051.52 10	5.0 5	6891.381	3 ⁺ ,4 ⁺	839.813	3 ⁻ ,4 ⁻	
6056.5 5	0.71 11	6891.381	3 ⁺ ,4 ⁺	835.714	(2 ⁺ ,3,4,5 ⁺)	
6060.5 11	0.38 9	6891.381	3 ⁺ ,4 ⁺	831.684	4 ⁻ ,5 ⁻	
6069.3 3	0.22 3	6891.381	3 ⁺ ,4 ⁺	821.605	(2,3,4 ⁺)	
6090.8 @ 4	0.10 1	6891.381	3 ⁺ ,4 ⁺	801.253	(1 ⁺ ,2,3,4 ⁺)	Observed by 1984Ke11 only.
6138.46 8	1.29 13	6891.381	3 ⁺ ,4 ⁺	752.7029	4 ⁻	
6149.83 11	0.64 7	6891.381	3 ⁺ ,4 ⁺	741.277	(3 ⁺ ,4)	
6175.19 5	6.4 7	6891.381	3 ⁺ ,4 ⁺	715.823	(2,3) ⁻	
6189.14 5	3.8 4	6891.381	3 ⁺ ,4 ⁺	701.9999	3 ⁻ ,4 ⁻	
6198.14 17	0.48 8	6891.381	3 ⁺ ,4 ⁺	693.838	(2,3,4 ⁺)	
6203.33 24	0.46 6	6891.381	3 ⁺ ,4 ⁺	688.626	(4) ⁺	
6208.4 7	0.083 20	6891.381	3 ⁺ ,4 ⁺	684.504	(2,3) ⁻	Observed by 1987Bo24 only.
6247.43 @ 7	0.77 12	6891.381	3 ⁺ ,4 ⁺	643.9642	4 ⁻	
6267.40 20	0.044 13	6891.381	3 ⁺ ,4 ⁺	624.0074	(5) ⁻	Observed by 1987Bo24 only.
6268.80 19	0.19 2	6891.381	3 ⁺ ,4 ⁺	621.997	(2,3,4,5) ⁺	
6278.3 5	0.058 10	6891.381	3 ⁺ ,4 ⁺	613.021	(4,5) ⁻	
6307.37 9	0.65 7	6891.381	3 ⁺ ,4 ⁺	584.1804	(2,3) ⁺	
6312.44 @ 11	0.28 7	6891.381	3 ⁺ ,4 ⁺	579.131	(2,3) ⁺	
6320.29 8	0.94 10	6891.381	3 ⁺ ,4 ⁺	570.8266	4 ⁻	
6350.69 22	0.096 16	6891.381	3 ⁺ ,4 ⁺	539.657	(3,4,5) ⁺	
6371.81 11	0.24 3	6891.381	3 ⁺ ,4 ⁺	519.3217	(3,4) ⁺	
6388.43 17	0.73 11	6891.381	3 ⁺ ,4 ⁺	502.8411	(3,4) ⁺	
6406.8 6	0.032 11	6891.381	3 ⁺ ,4 ⁺	483.6574	(3,4) ⁻	

¹³³Cs(n,γ) E=thermal **1987Bo24** (continued)

γ(¹³⁴Cs) (continued)

<u>E_γ[†]</u>	<u>I_γ^{‡b}</u>	<u>E_i(level)</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>	<u>Comments</u>
6437.64 [@] 14	0.24 7	6891.381	3 ⁺ ,4 ⁺	454.0876	3 ⁺ ,4 ⁺	
6439.74 5	1.68 17	6891.381	3 ⁺ ,4 ⁺	451.4250	(3) ⁺	
6514.07 6	0.93 10	6891.381	3 ⁺ ,4 ⁺	377.1021	4 ⁺	
6602.4 8	0.030 15	6891.381	3 ⁺ ,4 ⁺	290.9669	(2) ⁺	
6619.76 7	0.30 8	6891.381	3 ⁺ ,4 ⁺	271.3489	(2,3) ⁺	
6656.94 8	0.58 6	6891.381	3 ⁺ ,4 ⁺	234.3341	(3) ⁺	
6681.1 7	0.087 13	6891.381	3 ⁺ ,4 ⁺	209.5458	(4,5) ⁺	
6693.90 21	0.39 8	6891.381	3 ⁺ ,4 ⁺	197.7817	(2) ⁺	
6697.61 4	5.4 6	6891.381	3 ⁺ ,4 ⁺	193.6162	4 ⁻	
6700.6 8	0.52 26	6891.381	3 ⁺ ,4 ⁺	190.2614	(3) ⁺	E _γ : from 1987Bo24 .
6714.86 9	2.26 23	6891.381	3 ⁺ ,4 ⁺	176.4044	3 ⁻ ,4 ⁻	
6717.5 6	0.46 14	6891.381	3 ⁺ ,4 ⁺	173.7942	(2,3) ⁺	
6831.30 5	0.93 10	6891.381	3 ⁺ ,4 ⁺	60.0297	(3) ⁺	
6879.98 9	0.38 4	6891.381	3 ⁺ ,4 ⁺	11.2442	5 ⁺	
6891.39 7	0.52 6	6891.381	3 ⁺ ,4 ⁺	0.0	4 ⁺	

[†] From **1987Bo24**; primary transitions are from **1986Ko31**.

[‡] Photons per 1000 n-captures. Systematic error of 13% is not included.

[#] From **1989Du03**.

[@] From **1984Ke11**.

[&] Transition may be from ¹³⁴Cs(n,γ), too.

^a From ce data for unresolved transitions (**1987Bo24**).

^b For intensity per 100 neutron captures, multiply by 0.1.

^c Total theoretical internal conversion coefficients, calculated using the BrIcc code (**2008Ki07**) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

^d Multiply placed with undivided intensity.

^e Placement of transition in the level scheme is uncertain.

^x γ ray not placed in level scheme.

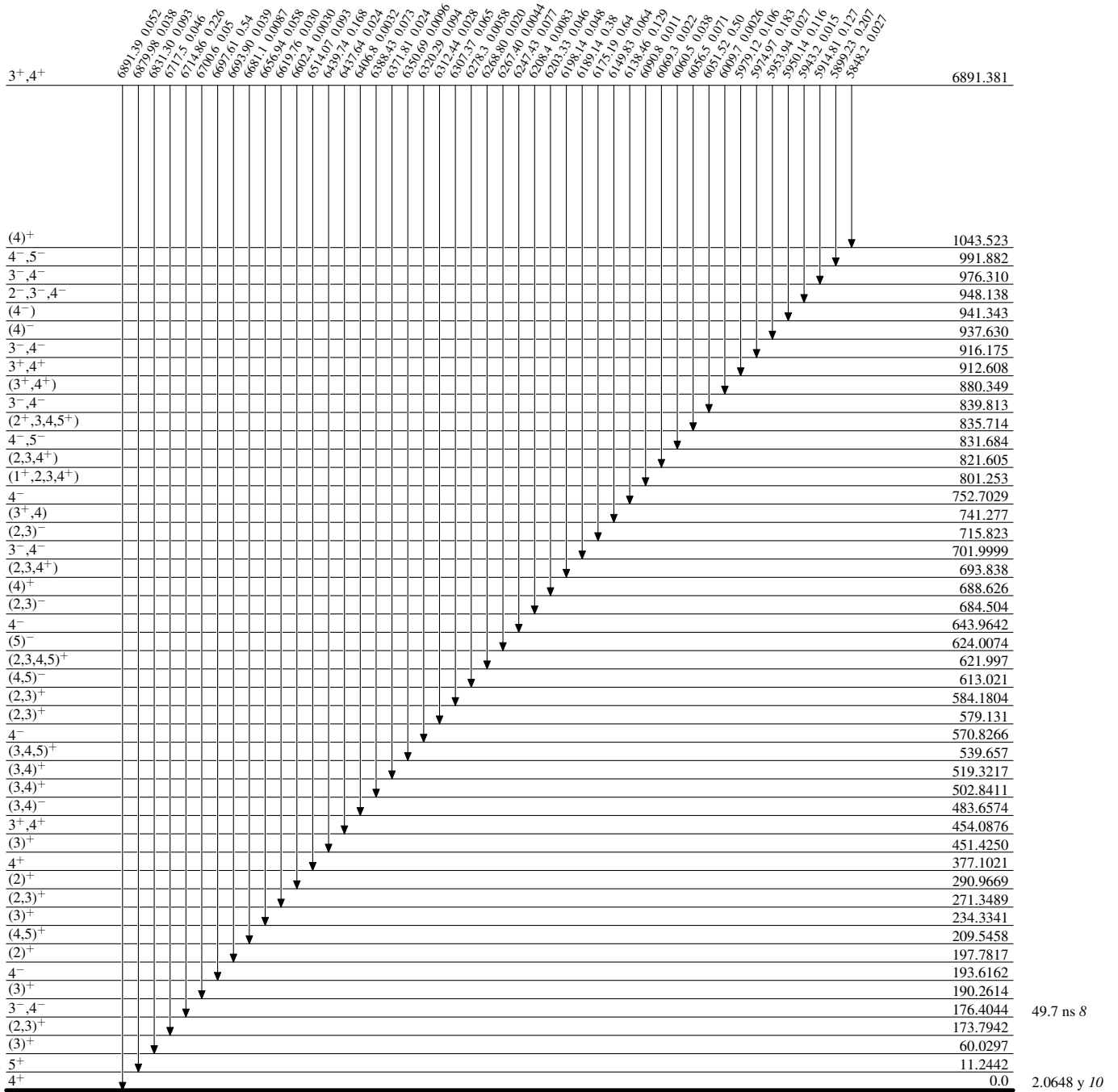
¹³³Cs(n,γ) E=thermal 1987Bo24

Level Scheme

Intensities: I_γ per 100 neutron captures

Legend

- I_γ < 2% × I_γ^{max}
- I_γ < 10% × I_γ^{max}
- I_γ > 10% × I_γ^{max}



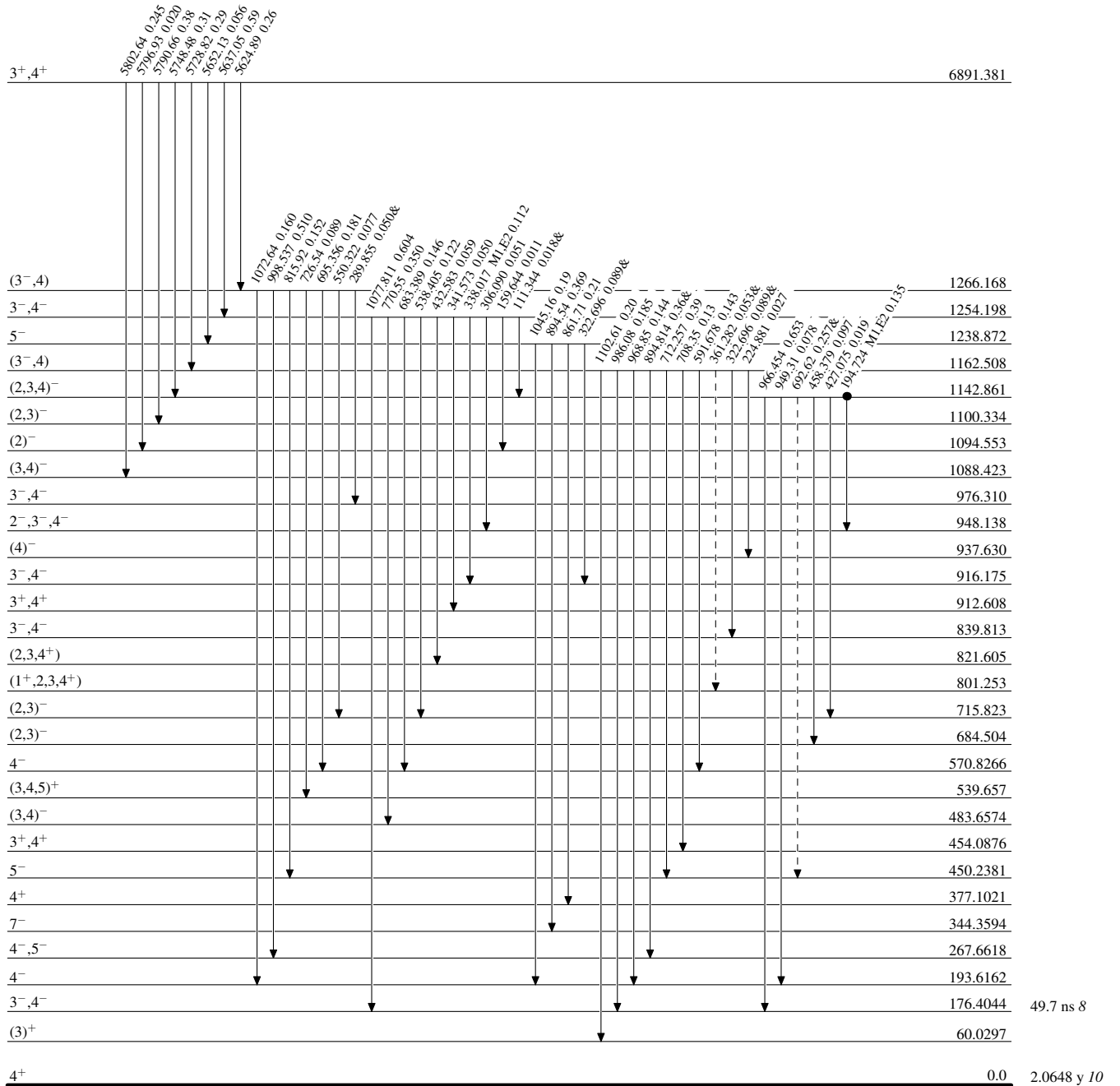
¹³³Cs(n,γ) E=thermal 1987Bo24

Level Scheme (continued)

Intensities: I_γ per 100 neutron captures
& Multiply placed: undivided intensity given

Legend

- I_γ < 2% × I_γ^{max}
- I_γ < 10% × I_γ^{max}
- I_γ > 10% × I_γ^{max}
- - - - - γ Decay (Uncertain)
- Coincidence



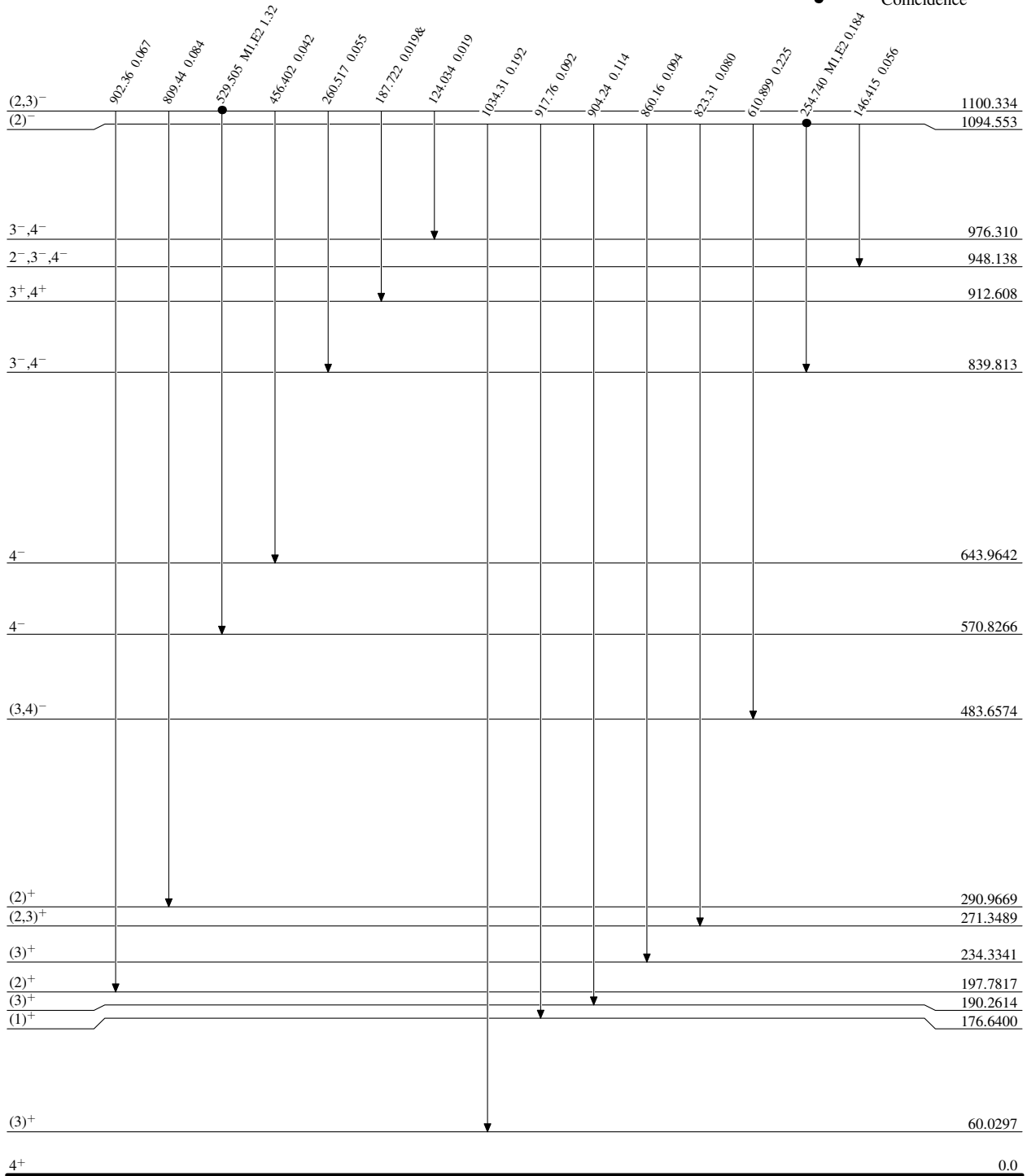
¹³³Cs(n,γ) E=thermal 1987Bo24

Level Scheme (continued)

Intensities: I_γ per 100 neutron captures
& Multiply placed: undivided intensity given

Legend

- I_γ < 2% × I_γ^{max}
- I_γ < 10% × I_γ^{max}
- I_γ > 10% × I_γ^{max}
- Coincidence



¹³⁴₅₅Cs₇₉

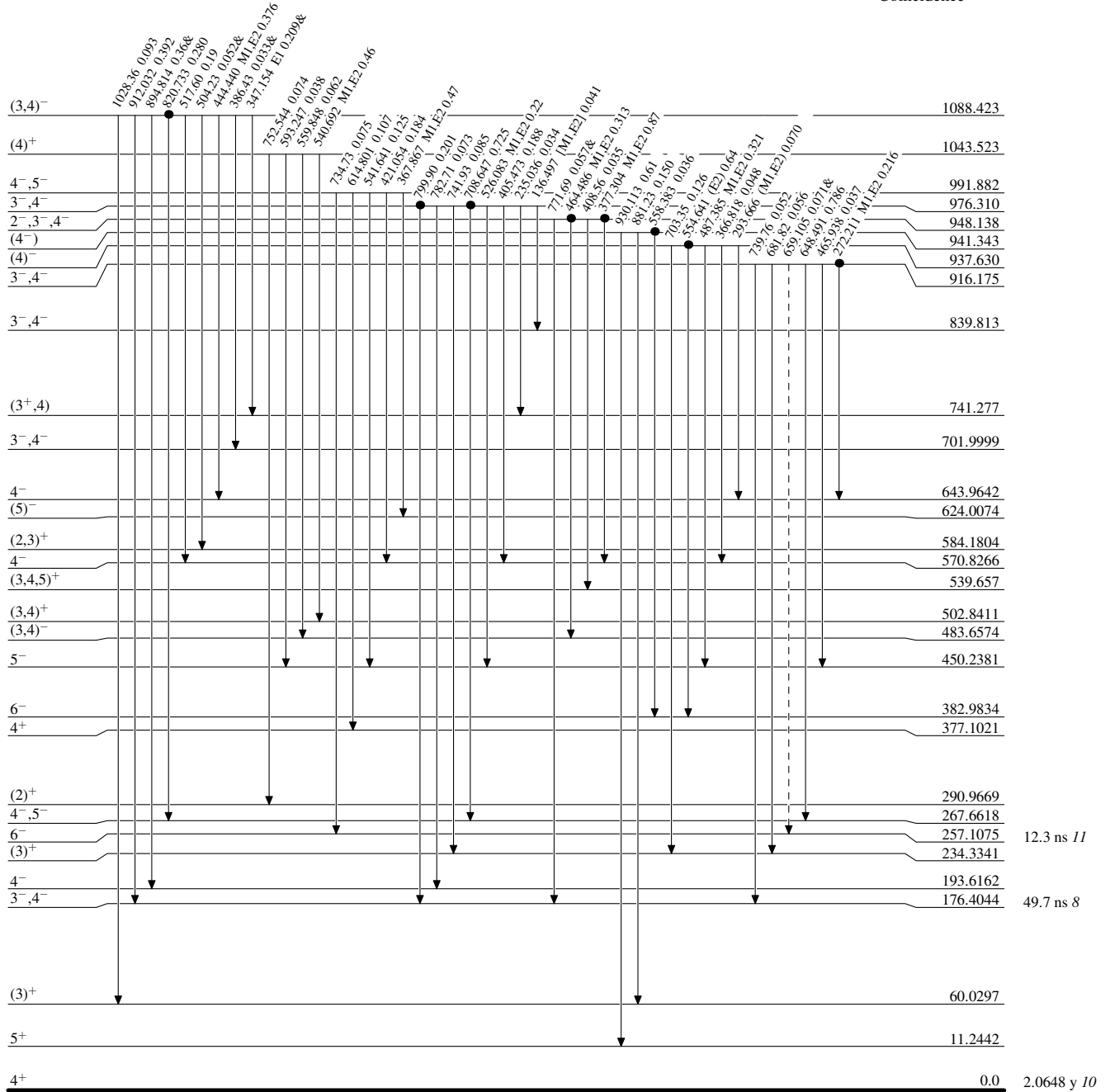
¹³³Cs(n,γ) E=thermal 1987Bo24

Legend

Level Scheme (continued)

Intensities: I_γ per 100 neutron captures
& Multiply placed: undivided intensity given

- I_γ < 2% × I_γ^{max}
- I_γ < 10% × I_γ^{max}
- I_γ > 10% × I_γ^{max}
- - - - - γ Decay (Uncertain)
- Coincidence



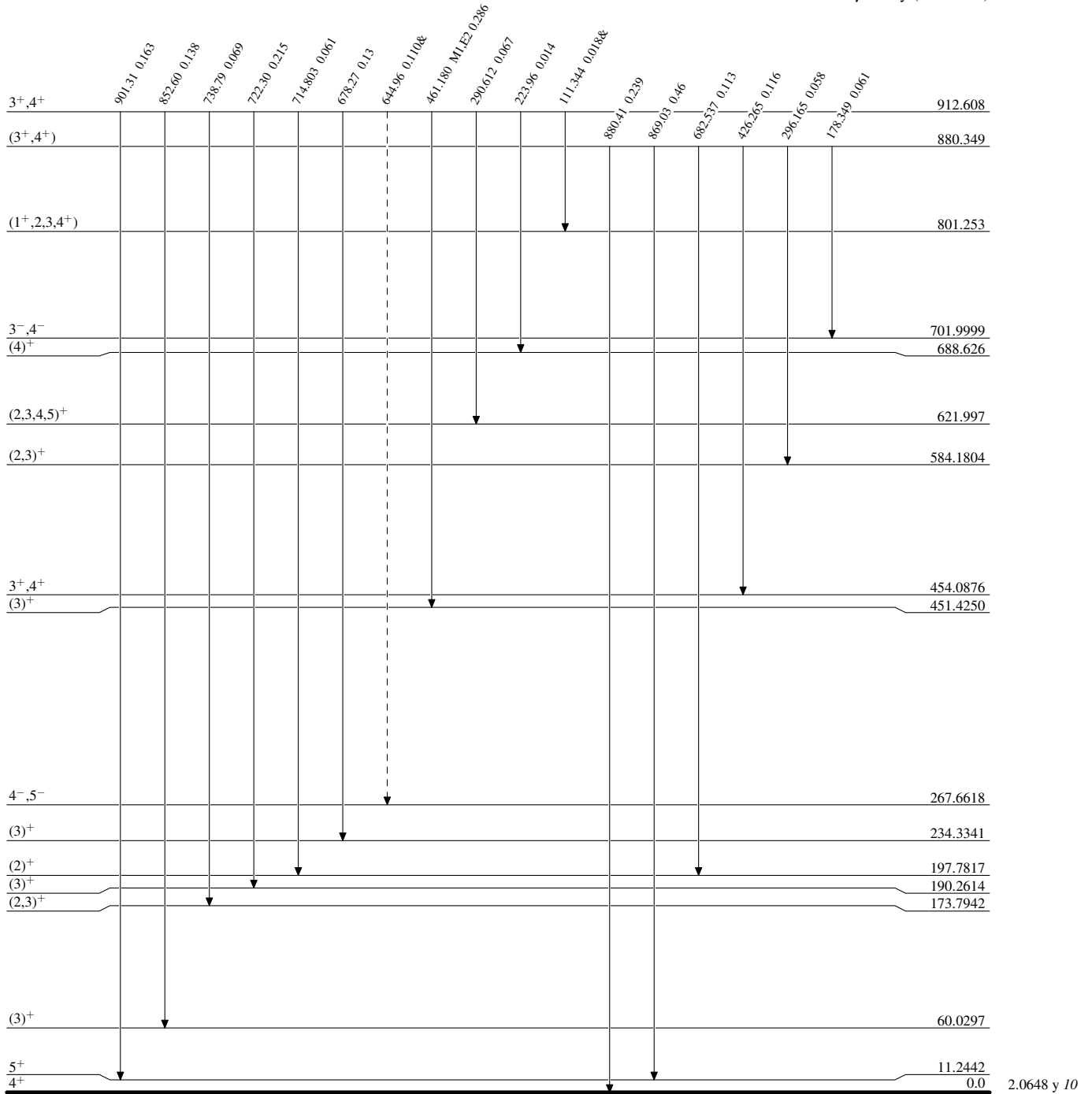
¹³³Cs(n,γ) E=thermal 1987Bo24

Level Scheme (continued)

Intensities: I_γ per 100 neutron captures
& Multiply placed: undivided intensity given

Legend

- I_γ < 2% × I_γ^{max}
- I_γ < 10% × I_γ^{max}
- I_γ > 10% × I_γ^{max}
- - - - - γ Decay (Uncertain)



¹³⁴Cs₇₉

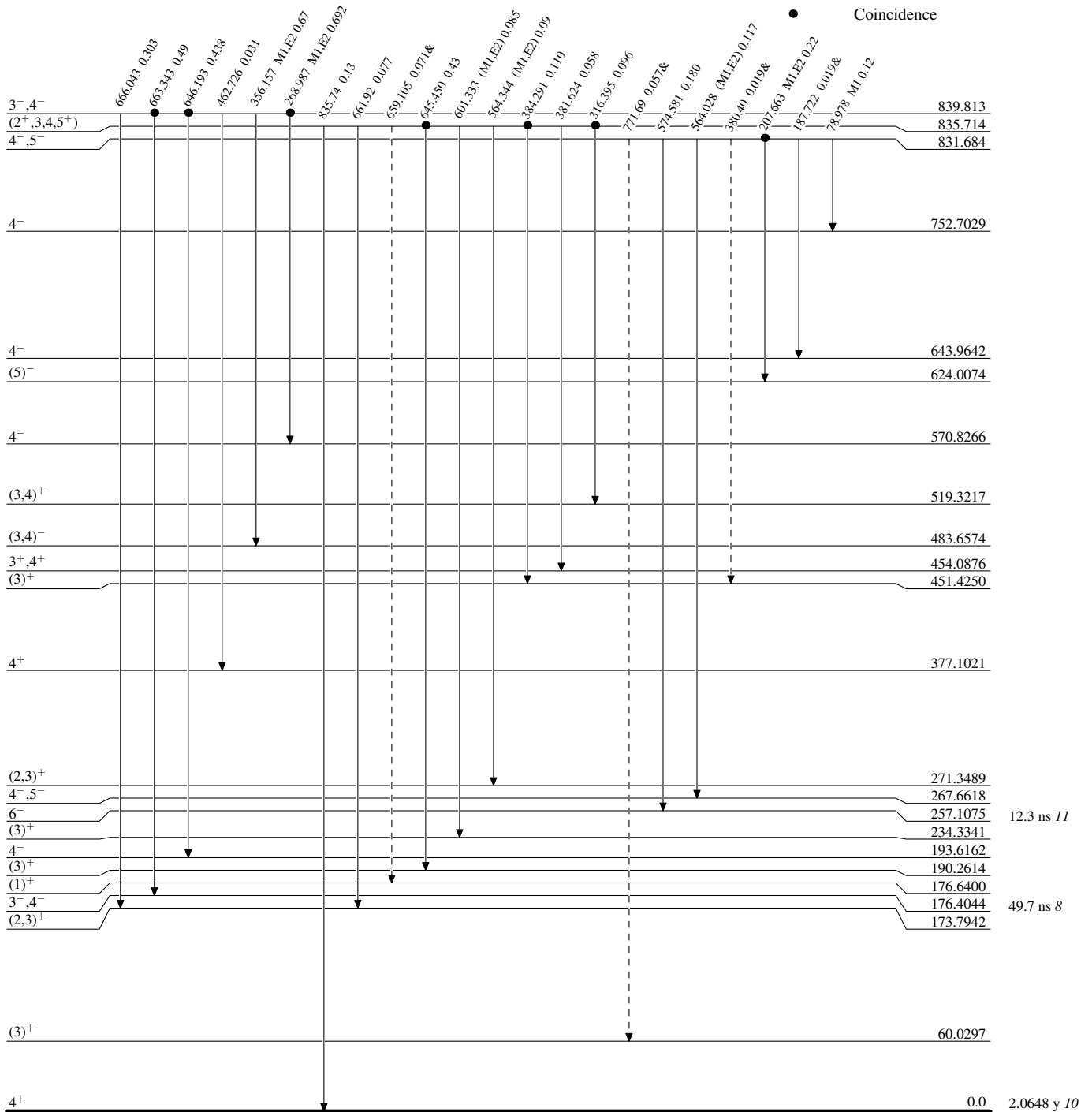
¹³³Cs(n,γ) E=thermal 1987Bo24

Level Scheme (continued)

Intensities: I_γ per 100 neutron captures
& Multiply placed: undivided intensity given

Legend

- I_γ < 2% × I_γ^{max}
- I_γ < 10% × I_γ^{max}
- I_γ > 10% × I_γ^{max}
- - - → γ Decay (Uncertain)
- Coincidence



¹³⁴Cs₇₉

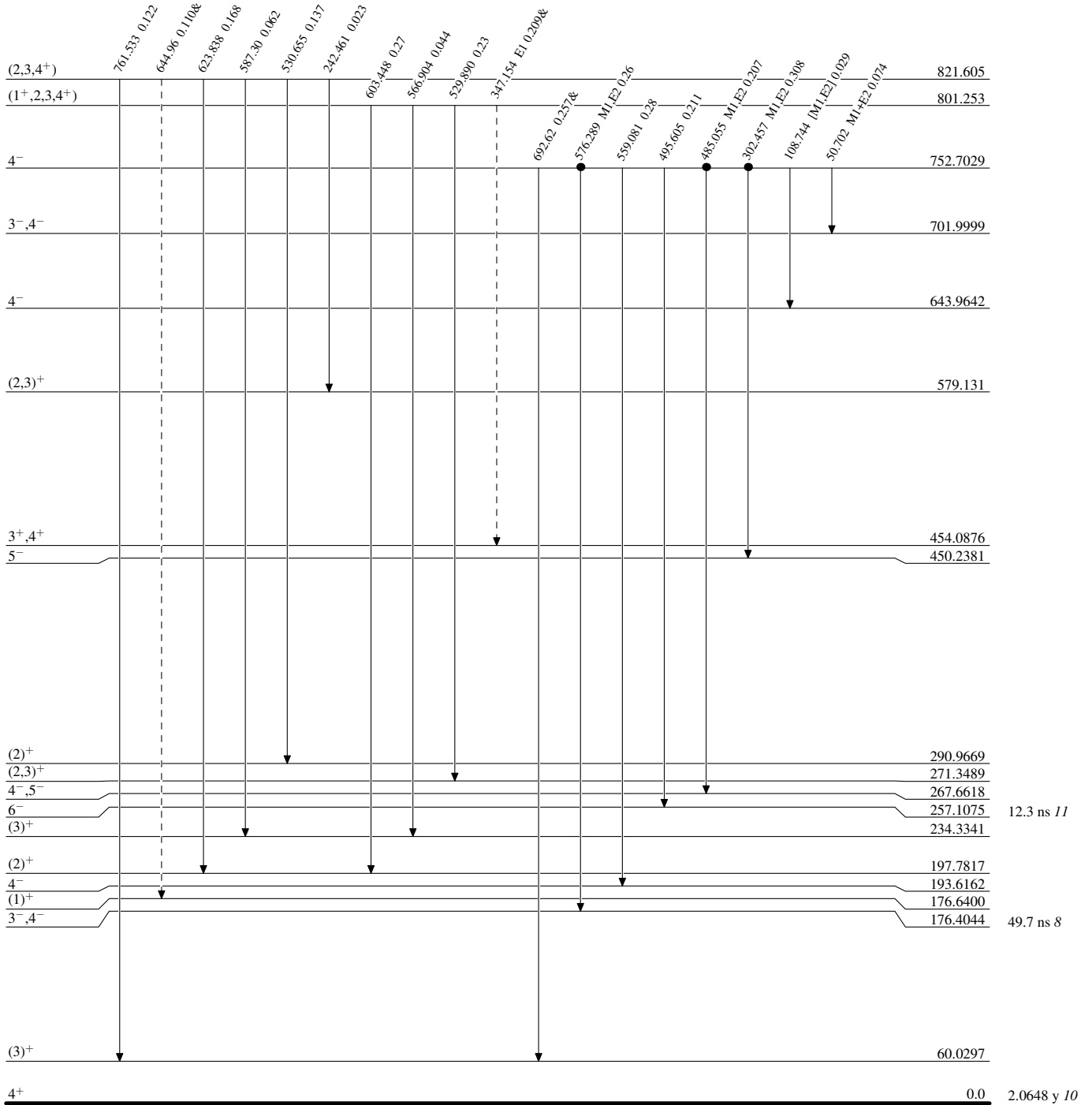
¹³³Cs(n,γ) E=thermal 1987Bo24

Legend

Level Scheme (continued)

Intensities: I_γ per 100 neutron captures
& Multiply placed: undivided intensity given

- ▶ I_γ < 2% × I_γ^{max}
- ▶ I_γ < 10% × I_γ^{max}
- ▶ I_γ > 10% × I_γ^{max}
- - -▶ γ Decay (Uncertain)
- Coincidence



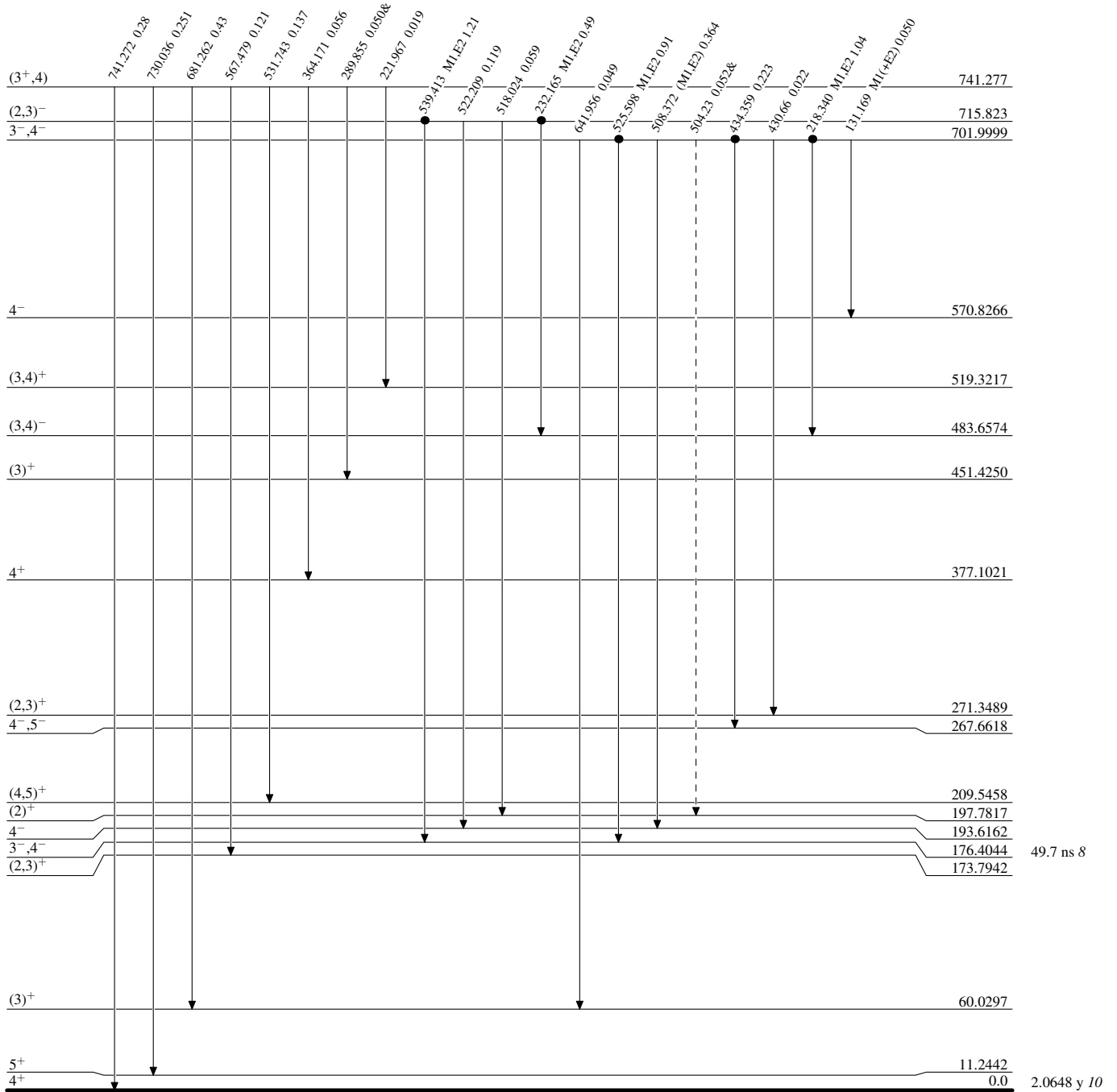
$^{133}\text{Cs}(n,\gamma) \text{E=thermal}$ 1987Bo24

Legend

Level Scheme (continued)

Intensities: I_γ per 100 neutron captures
& Multiply placed: undivided intensity given

- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- - - - - γ Decay (Uncertain)
- Coincidence



$^{134}_{55}\text{Cs}_{79}$

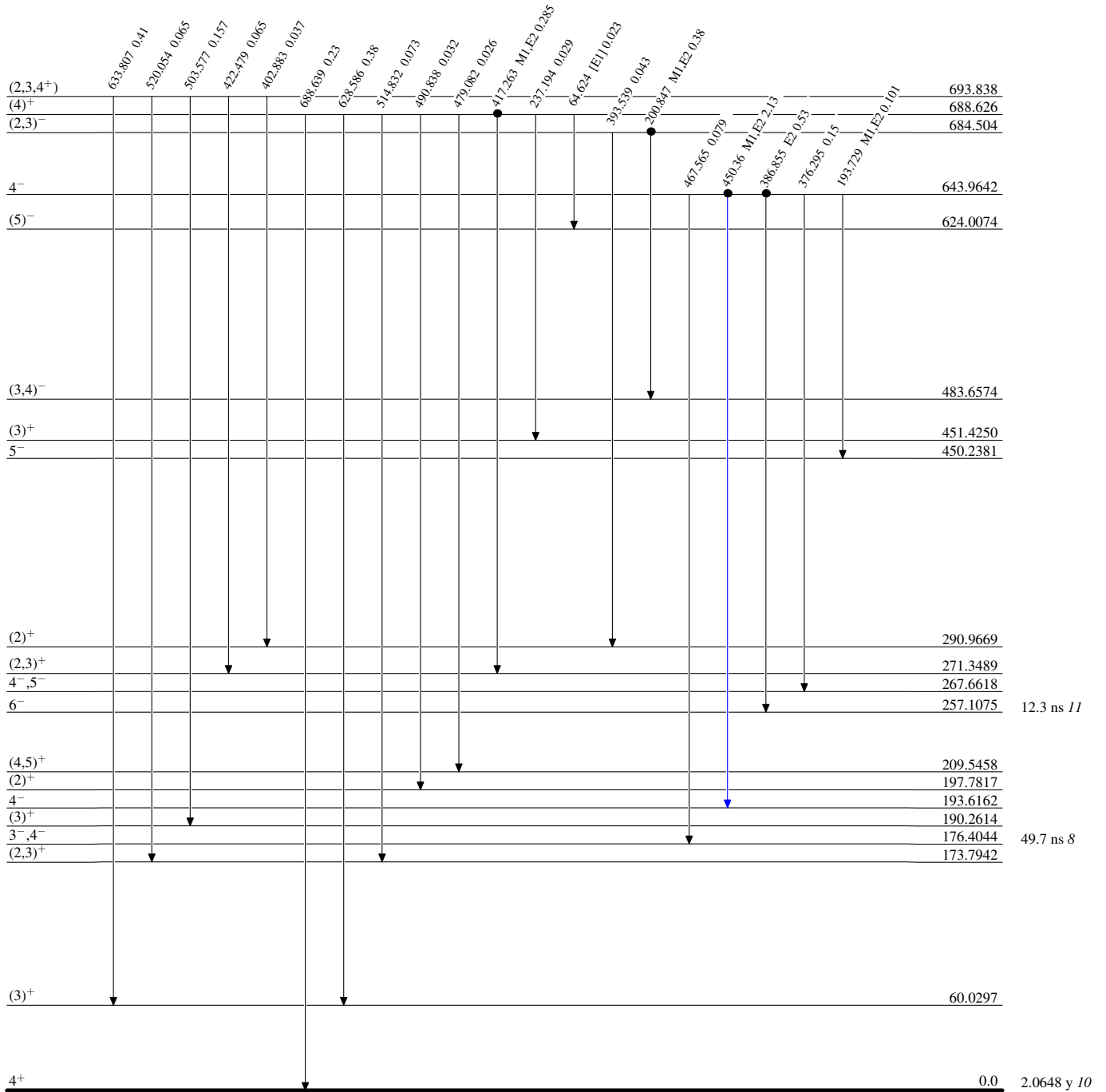
$^{133}\text{Cs}(n,\gamma)$ E=thermal 1987Bo24

Level Scheme (continued)

Intensities: I_γ per 100 neutron captures
& Multiply placed: undivided intensity given

Legend

- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- Coincidence



$^{134}_{55}\text{Cs}_{79}$

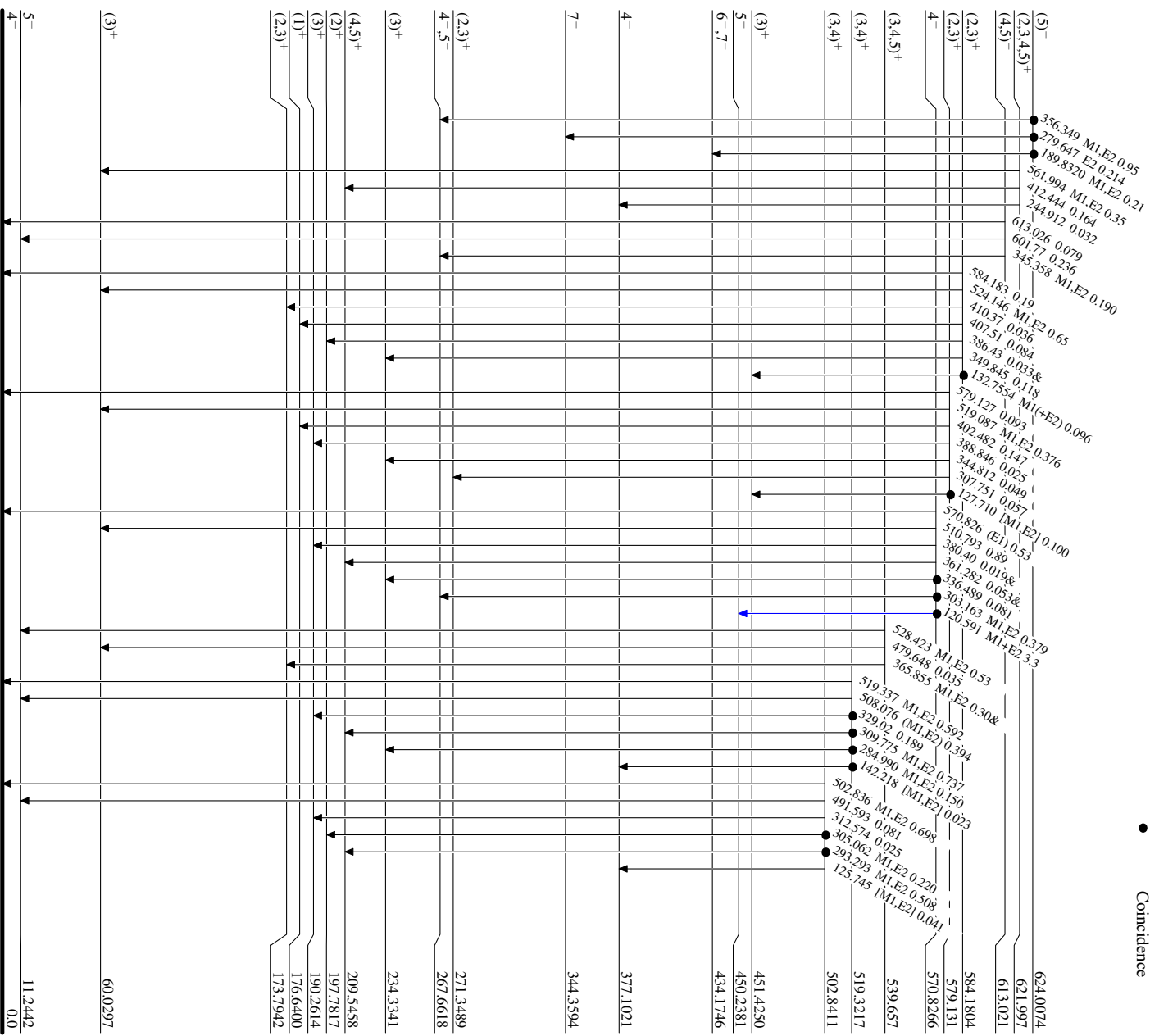
¹³³Cs(n,γ)E=thermal 1987Bo24

Level Scheme (continued)

Intensities: I_γ per 100 neutron captures
& Multiply placed: undivided intensity given

Legend

- I_γ < 2% × I_{max}
- I_γ < 10% × I_{max}
- I_γ > 10% × I_{max}
- Coincidence



¹³⁴Cs₇₉
⁵⁵Cs₇₉

2.0648 y 10

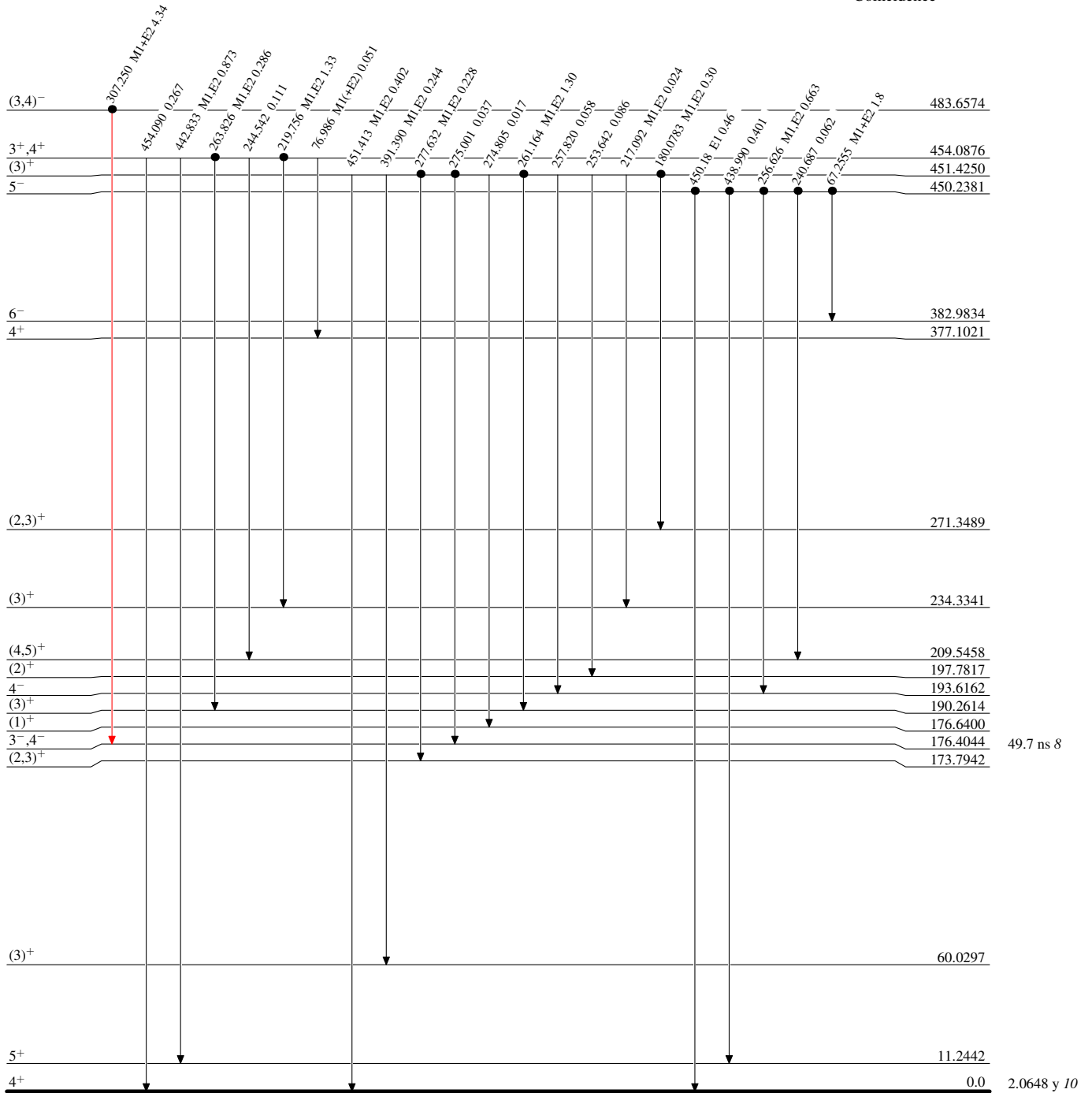
$^{133}\text{Cs}(n,\gamma) \text{E=thermal}$ 1987Bo24

Level Scheme (continued)

Intensities: I_γ per 100 neutron captures
& Multiply placed: undivided intensity given

Legend

- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- Coincidence



$^{134}_{55}\text{Cs}_{79}$

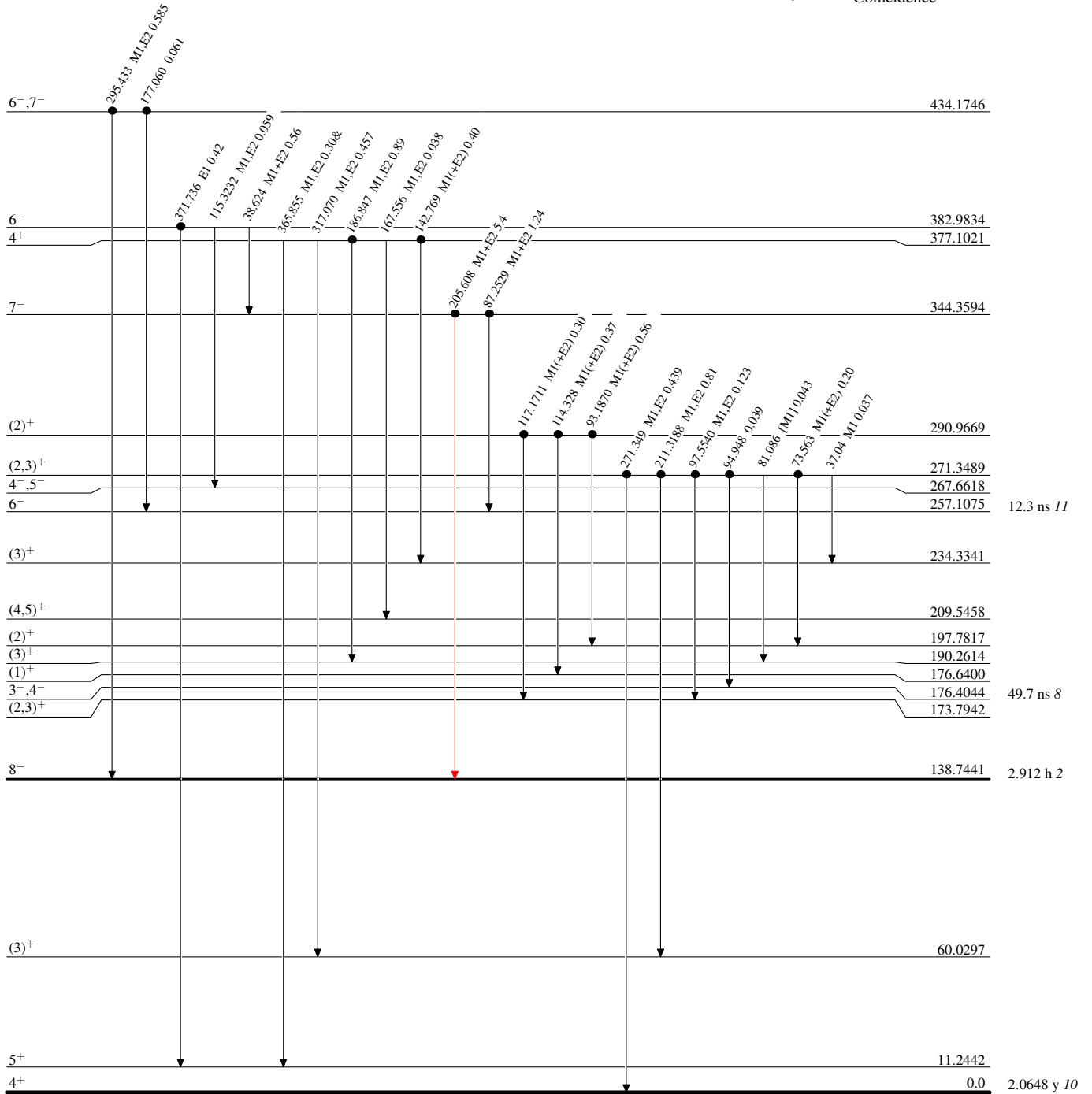
¹³³Cs(n,γ) E=thermal 1987Bo24

Level Scheme (continued)

Intensities: I_γ per 100 neutron captures
& Multiply placed: undivided intensity given

Legend

- I_γ < 2% × I_γ^{max}
- I_γ < 10% × I_γ^{max}
- I_γ > 10% × I_γ^{max}
- Coincidence



¹³⁴Cs₇₉

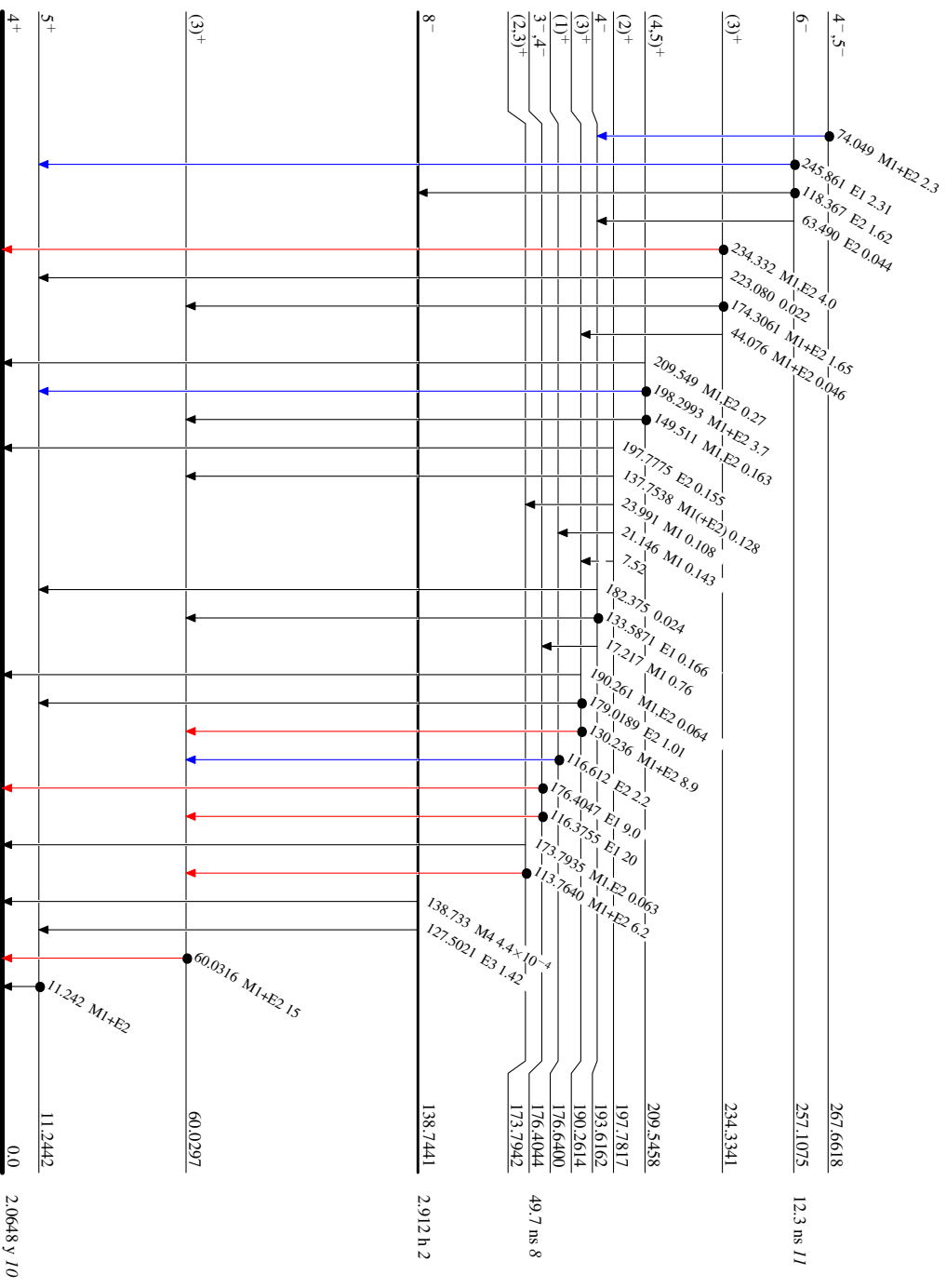
¹³³Cs(n,γ)E=thermal 1987Bo24

Level Scheme (continued)

Intensities: I_γ per 100 neutron captures
& Multiply placed: undivided intensity given

Legend

- I_γ < 2% × I_{max}
- I_γ < 10% × I_{max}
- I_γ > 10% × I_{max}
- - -→ γ Decay (Uncertain)
- Coincidence



¹³⁴Cs₇₉

2.0648 y 10